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VAGINAL TREATMENT OF STERILITY

Use of "Paratblättchen" (Parenchymatol-zwik-Doppel-blättchen): Dr. Becker's Method

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In a recent number of the *Berliner tierärztl Wschr.*, Dr. Becker, a well-known cattle practitioner at Hagenow, described a method of treating sterility which, in view of the simplicity of its application and cheapness, would appear to be worthy of a trial in cases which do not respond to the classical methods of Albrechtsen and Nielsen, and also where the question of expense has to be studied by reason of the number of cattle affected.

It is in the hope that his article will appeal to those engaged in cattle practice that a translation is appended. The leaves can be obtained from a well-known firm of London druggists, and they are inexpensive, a packet containing ten green parenchymatol leaves and ten zinc leaves costing three shillings and sixpence. The leaves are in reality "squares," measuring 1½ inches in width.

The procedure is to place a green leaf on a white one, fold in the form of a triangle with the white one outside, and insert into the vagina as far up as possible.

The treatment is at present being applied to the following cases, and I hope to report the results later:—

(1) Four cows previously fertile, which have been sterile following the use of living abortion vaccine.

(2) A case of pyometra arising from previous imperfect placental removal that has not responded to the Nielsen line of treatment, although the discharge has appreciably lessened, and œstrus is more or less regular.

(3) A cow that has been more or less regularly in œstrum since last May. Prior to this date, œstrum was under the recognised period, following a full-term parturition, the calf requiring removal (breech presentation). The placenta was retained.

(4) Eight cows which have aborted their last pregnancies. Placentæ accompanied the fœtuses. There was no discharge.

Following is a translation of Dr. Becker's article:—

On the Nature of the Vaginal Treatment of Sterility and its Practical Accomplishment

DR. BECKER, VETERINARY SURGEON, HAGENOW, GERMANY

The failure of definite forms of treatment frequently promotes the revival of apparently worn-out methods with which, after these have been remodelled in accordance with the latest views, it is possible to obtain results often eclipsing those secured from the methods in whose favour they had been abandoned.

This fact, generally known in medicine, has of late become especially evident in the treatment of sterility. For decades infectious vaginal catarrh has been looked upon as the chief cause of sterility and a therapy was adopted which aimed at curing the catarrh with disinfectants. It must be admitted that very good results have been obtained, although the assumptions underlying this treatment may have been wrong. But these results have been maintained in spite of the results of research work during the last few years which seem to indicate that vaginal catarrh is only of secondary importance in sterility. For this reason renewed attention has been paid to this therapy, the more so as it was found that the intrauterine method of infusion did not fulfil original expectations. It is undoubtedly a step forward that the cause of primary sterility in yearlings has been recognised as being chiefly confined to the uterus, but it is wrong to assume that a catarrhal affection of this organ will prevent impregnation on account of the sperms being injured by the secretion formed. As in most cases a secretion is either not noticeable at all or only to a very slight extent, one is led to the conclusion that another factor is responsible for sterility—possibly the condition of the uterus itself, the characteristic factor being weakness, *e.g.*, an inability to take up and develop the fructified ovum. Here may be mentioned a fact to which reference will be made later, that under the above conditions there is nothing to prevent the animals from being regularly covered.

Uterine atony may be both of primary and secondary origin. The development of a primary affection is a natural consequence of an endometritis for which a great variety of predisposing factors will come into consideration. That secondary alterations in the organ, on account of a progressive inflammatory process taking place in its immediate neighbourhood (here the

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vaginal catarrh comes into its own) may also play a very important part is due to the close correlation which exists between the uterus as the central sexual organ and the peripherally-situated genitals, so that the uterus itself may be detrimentally influenced by any injury to these.

The principle of vaginal therapy depends on the fact that, just as there may be an injurious influence, so there may also be a stimulus which promotes cure, and which, being effective on *one part* of the sexual apparatus, must also favourably influence the whole sexual organism. All remedies used for the treatment of a correctly or incorrectly diagnosed vaginal catarrh act in this sense and produce a stimulus which also activates the uterus.

There is therefore no doubt that vaginal treatment will stand scientific criticism. The dominating position of this method of treatment is, however, due to its exceedingly simple operation, its harmlessness, its superior curative results and, last but not least, its cheapness—all points which may be made in favour of vaginal as opposed to uterine treatment. A fundamental condition is, of course, a suitable remedy and this is fortunately available. In my practice I have worked for years with parat leaves (parenchymatol-zinc, double leaves), issued by the firm of "Atarost" in Rostock, which have given me very satisfactory results. The two leaves, each of which contains one of the effective remedies, are folded one over the other, the white leaf being outside. They are then introduced as far as possible into the vagina, using two fingers. Although a single application frequently brings about the desired result, it is advisable to repeat the treatment twice in each case, thus making quite sure of a permanent cure. I myself make it a rule to repeat this treatment thrice at intervals of one week.

The application is generally well tolerated by the cows without giving rise to any special reactions. It is only in isolated cases—in very sensitive animals and in acute vaginitis accompanied by painful inflammation—that the animals may become restless. This is, however, of no importance and the symptoms will always disappear within a short time. The introduction of the leaves is so simple that when once it has been shown to the owner of the animals the further treatment may be left to him. The cleanliness of this method is a great advantage over the use of pyoktannin leaves.

These supplementary advantages would, however, not be sufficient as a recommendation of the parat leaves if they would not guarantee a high percentage of cures, which may be ascribed to the favourable action of the two ingredients, *e.g.*, the well-known profound action of parenchymatol and the stimulant action of the zinc salt. In this connection it may be remarked that, being used three times, the leaves tone up the uterus much more powerfully than a single infusion of iodine, which may also have serious consequences. I do not wish to give here detailed instances and therefore restrict myself to the statement that in the course of several years I have not only obtained success to the extent of more than 90 per cent., but by choosing rutting-time as a starting point for treatment (a method recently introduced by me and to which I shall revert later) these successes could still be further augmented so that an occasional failure (assuming, of course, the absence of irremediable complications) could be considered exceptional.

Moreover, I could demonstrate the great advantage of the parat leaves as a uterine stimulant by some interesting observations, from which valuable conclusions may be drawn as regards the nature of sterility. In the first place, I was rather unpleasantly surprised that a number of cows (which, as it happened, had been covered shortly before treatment, but not subsequently) were later found to be pregnant. As an explanation of this peculiar occurrence it must be assumed that in these cases the treatment effected a delayed uterine activity so that the fructified, still viable ovum could be retained. A systematic search through voluminous material has confirmed this supposition. Finally, therefore, I started treatment about two to three hours after the animals had been covered, when I obtained very satisfactory results. The rutting-period is a very suitable time to sensitise the sexual apparatus, which is then filled with blood. But even with this modification I always allow the application to be repeated twice.

These observations also amply demonstrate that even in apparent sterility an impregnation can frequently be brought about and that my assumption of a uterine atony being the cause of sterility, as it does not permit the development of an ovum, is therefore correct.

I take this opportunity of drawing attention to a method which was practised some years ago. This was founded on similar principles to those mentioned above, *viz.*, the use of a so-called *prophylactic* against vaginal catarrh shortly before and after mating. If, as is stated, good results have been obtained with this method, I believe this to be due only to the *mobilisation* of the genital apparatus preparatory to conception. It therefore fully agrees with the views expressed above.

In conclusion, I desire to state that my experiences with parat leaves are restricted to their use in sterility of cattle. In my private practice, which does not include any special horse breeding, sterility in mares is only treated exceptionally. It would, however, be welcome if practical experiments were also carried out in

this field, as here the indications for parat leaves are similar to those for cattle. As, however, mares are very sensitive, I would advise a reversed introduction of the leaves into the vagina, *i.e.*, the green parenchymatol leaf outside and the white zinc leaf within. This measure, which would only cause slight irritation in the beginning and would effect a gradual absorption of the zinc salt, would probably to a great extent prevent restlessness in the animals.

THE WORLD'S FIBRE-PRODUCING ANIMALS

Professor Aldred Barker, of Leeds University, in the course of a broadcast talk on November 2nd on "Fibre and Fabric—the World's Fibre-producing Animals," said:—"The basic sheep of the world is a dun-coloured animal, carrying an outer coat of strong fibre and an under-coat of fine wool. It is known as the Urial of Asia, the Moufflon of Europe and the Big-Horn of North America. A world-dominant evolution from this basic sheep apparently started with the drying up of the Gobi Sea in Central Asia, giving us the drought-resisting Fat-tail, Broad-tail, and Fat-rump sheep—all bigger sheep than the Urial or Moufflon, carrying developed fleeces of wool.

"Crosses of these types of sheep appeared in South-Eastern Europe, and eventually two migrations seem to have taken place; one along the shores of the Mediterranean Sea culminating in the Merino sheep of Spain, and the other across the plains of Europe to Scandinavia culminating in the English sheep of the British Isles.

"Other textile-fibre producing animals are the Alpaca and vicuna of South America and the camel of Asia; the angora goat of Asia Minor, and the Cape of California, yielding mohair; and the cashmere goat of Tibet and Central Asia, yielding cashmere. . . .

"A matter of special interest is the problem of the black sheep which often appears among even the whitest flocks. In Yorkshire's finest breed of sheep (the Wensleydale), for example, you can usually see a large number of black sheep. In this breed there are at least three types of animals—the really pure white, a white carrying a half-dose for black, and the black. The unfortunate point is that it is impossible to distinguish between the true white in any other way than by a breeding test, so that although the Wensleydale breeder has been trying to purify his flocks by killing off the blacks for the last forty years, he is still no nearer his goal. For if two whites which carry the half-dose for black are crossed, the inevitable result is 25 per cent. pure whites, 50 per cent. impure whites not distinguishable by the eye from the pure whites, and 25 per cent. blacks, which, of course, are most apparent."

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As a result of observations made on 923 patients, Dr. Isaacs, of the University of Michigan, concludes that the effect of X-ray on the cells of cancer is not to kill them directly but to make them live their normal life more rapidly and die of senility at an early age. It is expected that this discovery will be of great importance in understanding the various kinds of cancer and other diseases of cell growth, such as leucæmia, lymphoblastoma, and pernicious and other anæmias.—*Vet. Med.*

Clinical Communications

CHRONIC OTITIS MEDIA IN THE DOG

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Chigwell

The subject, a nine-year-old Pomeranian dog, first came under treatment in May, 1931, for general ill-health accompanied by fœtid breath. The animal presented a pitiable picture. It was extremely emaciated with a dry harsh coat and scurfy scaly skin, bald in patches, and a chronic purulent discharge from ears, eyes and nostrils. Sickness and diarrhœa were occasional but not constant symptoms, whilst toothache was obviously constant. The breath was extremely fœtid and many of the teeth loose and caried.

As the patient was in no fit condition for general anæsthesia nor for more than palliative dentistry, attention was paid to the cleaning up of the mouth, which was regarded as the primary focus of infection, and the administration of internal antiseptics.

All flesh food was inhibited and, as whole milk was not retained, a diet of Benger's food prescribed and the mouth was frequently and freely swabbed with dimol solution, a good deal of which was swallowed during this treatment.

On May 26th considerable improvement had taken place; the food was retained, diarrhœa had ceased and the patient's strength and vitality increased. The mouth was then well cleaned up by swabbing with eusol and such teeth as were loose enough to lift out without damaging the alveoli were removed, it being considered unwise to expose raw surfaces for the absorption of fœtid material in so septic a situation. In this manner nearly all the molars were removed.

The owner was advised that so soon as the patient's condition permitted all the remaining teeth should be extracted. To this, however, consent could not be obtained, but on September 7th some further extractions of teeth which had created an unbearable fœtor were carried out under chloroform. By this time the dog's health had much improved. He had put on weight, the skin was soft and supple and the coat long and silky. His spirits were excellent, all digestive trouble had ceased and a milk diet was tolerated and enjoyed.

A purulent otorrhœa, however, persisted and the breath was still unpleasant, though not markedly fœtid.

On April 19th this year, as the oral fœtor increased, the dog, now in excellent condition, was anæsthetised and his canine teeth extracted. The roots of these teeth were carious and (before extraction) a purulent discharge welled up in

the gums. After extraction the alveoli were syringed out with warm hypertonic salt solution and later swabbed out with dimol solution until the gums healed. The otorrhœa still persisted, but a purulent conjunctivitis, which had lately become troublesome, now rapidly cleared up with the application of an antiseptic collyrium.

The purulent otorrhœa was attributed to an infection of the auditory meatus *via* the Eustachian tube and originating in the mouth and it was hoped that now that focus of sepsis was cleared up the secondary infection might automatically follow suit.

In September, however, the owner complained of the long-standing nature of this catarrh and asked that some more potent treatment might be adopted with a view to effecting a radical cure, and to obtain this an astringent lotion was prescribed.

The result was dramatic and disastrous. After a week's treatment the discharge ceased but was then followed by a typical "labyrinthine storm" with the accompanying vertigo, vomiting and nystagmus. The discharge from the ears had probably accumulated in the vestibule and burst through the tympanic membrane, thus relieving back-pressure which was again set up by the healing of the perforation following the use of astringents.

The ears were now gently syringed out, once only, with a warm alkaline solution and a little glycerine poured in daily. A slight blood-stained muco-purulent discharge has again commenced and is accompanied by a marked improvement in co-ordination of the movements of the fore-limbs, which had been lost. The improvement, although gradual, is continuous and the animal is still under observation.

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AN EXPERIENCE WITH "LAMB DYSENTERY"

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Pontefract

The use of serum in this condition is well known, but on account of the very definite results obtained in an outbreak during the past lambing season, I think it is worthy of record.

The earliest twenty ewes lambed and were got away on to pasture; the next batch of forty ewes commenced to lamb, and the lambs died under two days old, until about sixty successive lambs had succumbed. At this stage my advice was sought; serum injection of every new-born lamb was recommended and carried out. The deaths ceased abruptly, and every succeeding lamb lived. Unfortunately the owner had waited too long; the results obtained at that late hour, however, justify one in assuming that earlier intervention would have been equally effective in stemming the deaths, from the time of such intervention.

A NOTE ON PROLAPSE OF THE UTERUS

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For a number of years I have noticed how often milk fever in cows is associated with prolapse or threatened prolapse of the uterus, so much so that a "West" clamp is part of my equipment when called to a case of milk fever.

The threatened prolapse is discovered when passing the catheter, the physiologically enlarged mouth of the womb being just inside the lips of the vulva. The giving of an enema is also part of the treatment, not so much from the benefit that will be derived, as to discover the nature of the contents of the rectum, because if the fluid is returned unstained, I know that I must not look for a spectacular recovery, and on examining the rectum probably a few dry hard pieces of fæces are found—whereas if there are more or less normal fæces present, I am fairly convinced that it will not be necessary to make a second visit. In addition to oxygen inflation, I give an intravenous injection of calcium gluconate.

This all points to a deranged action of the nervous system, due to the blood supply having a low calcium content, causing lack of tone in involuntary muscles: hence the full bladder, torpid bowels, distension of the rumen with gas, and spasm of the voluntary muscles as shown by cramp in the legs, the hind ones more particularly.

I am forced to the opinion that in cases of prolapse of the uterus, not associated with the classical symptoms of milk fever, the condition may be due to a low calcium content sufficient to produce lack of tone in the uterus but not sufficiently low to evoke the symptoms of milk fever.

It is also very noticeable, on arrival at a mild case of milk fever, where there is only straightening of the hocks, with a snatchy movement and slight staggering, how the symptoms become exaggerated during treatment, the excitement causing an extra forcing of abnormal blood to the nervous system.

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COW WITH FOUR CALVES

W. T. OLVER, M.R.C.V.S.
Tamworth

Towards the end of October, a farmer whose farm I had arranged to visit on the following evening asked me to bring some medicine for a cow with "tympany." However, on the following morning I was called to an urgent case elsewhere and was unable to keep the appointment; meanwhile, the farmer had telephoned asking me to attend at once as the cow was much worse.

On arrival the cow was dead, but on being opened by the knacker a calf emerged from the abdomen and a large rupture in the uterus was exposed. In this organ *three* further calves were present. I may add that the cow was due to calve in six weeks' time and that the total weight of the four calves was 125 lbs.

I think that this very exceptional case may be of interest to members of the profession.

From *The Veterinarian*

November, 1832

RESPONSIBILITY AS TO CURB

. . . Our second scrap has reference to veterinary jurisprudence. The case is very well drawn up, and, although as a general principle, there would not seem to be much difficulty in giving the right answer, yet we can conceive of circumstances that would render the matter a little puzzling. We will not enter into it, but pose it as a problem for some of our brethren, and, perhaps, the younger ones, to execute their ingenuity upon.

Mr. A. B., who was advised to take *two* hours' exercise on horseback in the forenoon, applied to a horse-hirer (lender) for a quiet and handsome animal; and several horses being shown to him, he made choice of a mare, which, on trial, he hired.

A. B. then rode the mare *daily two* hours for *two* weeks and *four* days, but never travelled more than twelve miles at any time. During the *second* week the mare was *twice* allowed to gallop about 400 or 500 yards at most, after which she was ridden *two* hours *daily* as usual, for at least *six* days; but on the seventh day, the ostler stated the mare had sprung a curb in the left hind leg, which the hirer imputed to A. B., alleging it had been occasioned by hard riding. Now A. B. will make oath that, with the exception of the two occasions mentioned, the mare never was allowed to go quicker than an ordinary *canter* upon the turnpike road, during the *two* weeks and *four* days he had her out, and the mare was ridden for *two* hours daily at least *six* days after galloping as above mentioned.

The ostler stated that he had blistered the mare the morning after A. B. had her last out, without consulting A. B., and which he stated had been repeated once or twice without effect, and that the mare will likely require to be fired.

The hirer now demands £10 from A. B. for the injury he alleges the mare has received by improper treatment, stating the mare to be worth £45 and that her keep will amount to £10 till she has recovered. But as A. B. is conscious that he did not treat the mare improperly, he writes to know the opinion of a veterinary surgeon upon the above facts, and whether the sprung curb is attributable to A. B., or if he could be made liable for it in a court of law.

Eighteen persons, who pleaded ignorance of the law, were fined 5s. each at Solihull for conveying animals to Hampton-in-Arden market in vehicles which contravened the Transit of Animals Order, 1931, in respect of observation holes, lack of tail-boards, absence of side fencing, and insufficient litter.

Reports

REPORT OF PROCEEDINGS UNDER THE DISEASES OF ANIMALS ACTS FOR THE YEAR 1931

The Report is divided into six parts with Appendices. Part I deals with the position of Great Britain with regard to Contagious Animal Diseases; Part II, Importation—General Preventive Disease Measures; Part III, Protection of Animals and Poultry during Transit; Part IV, Export of Pedigree and other Stock and Raw Animal Products under the Regulations of Importing Countries; Part V, International Veterinary Bureau; Part VI, The Veterinary Laboratory, New Haw, Weybridge.

In an introductory chapter a brief review is given of those diseases which formerly prevailed but which, through the operations of the Diseases of Animals Acts, 1894 to 1927, are excluded. For instance, sheep pox, the first disease to be combated by Parliamentary enactment, has not been encountered since 1850; cattle plague (rinderpest), which was brought to this country in 1865, causing direct losses in the two years 1865-67 amounting to £4,000,000, and again introduced in 1872 and 1877, was finally eradicated in the latter year, since when the country has been entirely free; pleuro-pneumonia contagiosa, which was particularly rife in 1873, 72 counties having been declared infected, was gradually brought under control until, by the application of the slaughter policy, it was finally eradicated in 1898; epizootic lymphangitis, imported in 1905, was eradicated in 1906; glanders, of which there were 1,066 outbreaks in 1906, was gradually reduced, and the last case occurred in 1928; rabies was stamped out in 1902, and the country was free until 1918, when it was re-introduced at Plymouth by a dog or dogs illegally landed, and it was four years before it was again eradicated. No cases have occurred since 1922, excepting in imported dogs during the prescribed period of quarantine, thus demonstrating the protective value of quarantine regulations. Dourine (*maladie du coit*) has never existed in this country and is therefore not a notifiable disease under the existing law.

PART I.—POSITION OF GREAT BRITAIN REGARDING CONTAGIOUS ANIMAL DISEASES

The prevalence of other notifiable diseases, however, continues to engage attention, demanding not only the utmost vigilence in respect to the prevention of their introduction, but very careful and complete measures for their control and suppression.

(*a*) Foot-and-Mouth Disease.—During the year there were 97 outbreaks of the disease in Great

Britain, 65 of which were due to infection introduced in June by a consignment of cattle imported from County Down, Northern Ireland, *via* Belfast. These 97 outbreaks were responsible for the slaughter of 3,698 cattle, 5,563 sheep, 1,384 pigs and four goats, and for the sum of £96,454 5s. 6d. paid in compensation. Of the 65 outbreaks due to Irish infection, 39 occurred in England, the counties of Cumberland (3), Durham (1), Lancashire (31), Westmorland (2) and Yorks (North Riding) (2) being affected, and 26 outbreaks occurred in Scotland, the counties of Angus (2), Fifeshire (6), Kincardine (1), Kirkcudbright (1), Perth and Kinross (16) being implicated. Infection was introduced through the Ports of Ayr (June 11th) and Heysham (June 12th). It had a start of six days before discovery, and had infected five markets, *viz.*, Aberdeen, Perth, Montrose and Carlisle from the Port of Ayr, and Lancaster from the Port of Heysham, and from these markets it spread to other centres. The last outbreak due to Irish infection occurred on July 15th and all areas were freed on August 13th. The history of this outbreak is a good example of the effectiveness of Government policy, and the result also furnished ample evidence of the full measure of co-operation received by the authorities from stock owners and livestock traders. The remaining 32 outbreaks did not appear to be in any way connected with the Irish series. They were distributed at centres in East Sussex, Bedfordshire, Staffordshire, West Riding of Yorkshire, Lancashire, Buckinghamshire, Pembrokeshire and Huntingdonshire, and it was not possible to produce any definite evidence as to origin, excepting in one case where a field, in which affected cattle had been turned out, was used for purposes of a flower show attended by a large number of people, or where contaminated sacks used for feeding stuffs had been returned from affected premises to local millers and re-used for conveyance of foodstuffs to other premises. It was found that 56 cattle, 31 sheep and 22 pigs belonging to 15 different owners had been moved to the Royal Agricultural Show at Warwick from an area in Buckinghamshire before the outbreak was declared there. These animals were isolated in a separate part of the show and on the termination of the show were licensed therefrom to destinations for a further period of detention, but fortunately no case of disease developed in any of the show animals.

During the year serum treatment was administered in connection with 22 outbreaks, the animals subjected to the treatment comprising 1,743 cattle, 2,932 sheep, 774 pigs and one goat. In only two instances did disease develop in serumised animals, *viz.*, in one beast out of a lot of six cattle at Cowpen Bewley, Durham, and amongst cows out of a lot of 36 cattle at Renhold, Bedford. In the first it is probable that the animal was infected before the serum was administered, and in the latter it was probably due to infection from contaminated artificial feeding stuffs. The use of serum in field outbreaks is still only in the experimental stage.

(*b*) Bovine Tuberculosis.—There was a marked increase in the number of bovine animals slaughtered by local authorities under the Tuberculosis Order of 1925, *viz.*, 18,603 in 1931, as against 15,263 in 1930. The reasons assigned are (*a*) greater publicity, emphasising the need for a reduction of tuberculosis, and educational lectures by local veterinary staffs stimulating farmers to more activity in reporting cases; (*b*) increase of periodical inspection of dairy herds by veterinary staffs of local authorities, and greater activity in administering the Milk and Dairies Acts and Orders resulting in the discovery of larger numbers of affected dairy cattle. Another reason is that the price obtainable by the farmer from the knacker for an unthrifty animal has fallen and it therefore pays the farmer to report a case and so obtain compensation. Of 18,800 animals reported by veterinary inspectors as coming within the scope of the Order, 11,874 were cows in milk, 6,372 were other cows and heifers, and 554 were other bovines. Of these, 670 were giving tuberculous milk, 2,885 had tuberculosis of the udder, 7,526 were suffering from tuberculous emaciation, and 7,720 had chronic cough with clinical signs of tuberculosis. The total amount paid by local authorities in compensation for slaughter was £76,482 17s. 6d., or an average of £4 2s. 3d. As local authorities are entitled to a refund from the Ministry of 75 per cent.; the amount due and paid to local authorities during the year was therefore £57,362 3s 2d. On 21,554 premises in Great Britain on which disease was reported to exist, and out of 260,071 bovine animals (including 218,025 cows and heifers) examined on such premises, the total number of animals found affected within the terms of the Order amounted to 7·1 per cent., and 1·79 per cent. of the whole number examined were affected with tuberculosis of the udder or giving tuberculous milk. The percentage of milk and udder cases among cows and heifers actually affected with tuberculosis was 22·1 per cent. for England and Wales and 19·9 per cent. for Scotland, a considerable increase in both instances since the year 1926. On the other hand, there was a sensible decrease in the proportion of "advanced" cases of the disease.

(*c*) Sheep Scab.—There were 347 outbreaks of sheep scab in Great Britain during the year, a reduction of 131 outbreaks, or 28 per cent., as compared with 1930. The distribution was 197 (a decrease of 34) in England, Wales 132 (a decrease of 90), and Scotland 18 (a decrease of 7). The reduction in Wales is specially notable. The

position in Scotland continues to show satisfactory improvement, the number of outbreaks during the last six years steadily decreasing. There still remains, however, a certain amount of infection in the Outer Islands of Inverness, but with the installation of dipping baths and with the loyal co-operation of sheep owners, it is hoped that the disease will be ultimately eradicated from these islands. Twenty-five per cent. of the outbreaks were detected by the inspectors of the Ministry and inspectors of local authorities, and it would seem therefore that there is much room for improvement on the part of sheep owners in themselves searching out and reporting suspected cases amongst their flocks. In order to assist owners to build suitable dipping baths, the Ministry recently published a leaflet (Advisory Leaflet No. 64) providing the necessary information as to details of capacity, materials to be used, cost, together with a diagram giving measurements. On December 31st, 1931, the total number of approved sheep dips amounted to 259, of which 77 were arsenical and 182 non-arsenical, 179 of the latter being tar-acid dips.

(*d*) Swine Fever.—The number of reported outbreaks of swine fever inquired into during the year was 13,499, of which 2,026 (15 per cent.) were confirmed after veterinary examination at the Ministry's laboratory. Of the confirmed cases, 1,783 occurred in England, 195 in Scotland and 48 in Wales. These figures represented a decrease of 21·6 per cent. for England, an increase of 126·7 per cent. for Scotland, and no change for Wales, as compared with 1930. The power of the Ministry to slaughter swine affected with or suspected of swine fever is exercised only when necessary to establish diagnosis. For this purpose 2,505 were slaughtered during the year as compared with 2,959 in 1931, and £2,404 16s. 3d. was paid to owners in compensation. Swine fever is dealt with on the premises where it exists by the strict isolation of the affected herd until the disease has been eradicated under the provisions of the Swine Fever Order of 1908, and amending Orders. Experience has shown that the disease cannot be adequately controlled if the area over which special restrictions are imposed is not large enough to cover the whole extent of the area in which the infection has spread or is likely to spread.

(*e*) Swine Erysipelas.—This disease is not scheduled as notifiable, and many cases of reported swine fever prove on investigation to be swine erysipelas. During the year 1,217 such cases were diagnosed. The infective agent can carry on an independent existence in the soil, and as it is not altogether a matter of infection by contact with other swine, it is not covered by administrative measures. It can be dealt with by methods of preventive inoculation which have been found effective in practice. A serum and vaccine treatment is outlined in the Ministry's advisory leaflet No 17, which is handed to owners and protective inoculation advised and explained.

(*f*) Anthrax.—There were 465 confirmed outbreaks of anthrax during the year—an increase of 18·62 per cent. on the previous year—284 occurring in England, 177 in Scotland, and four in Wales. The animals affected were 494 cattle, 10 sheep, eight pigs, three horses and one dog, making a total of 516 animals. The disease occurred three times on each of three premises and twice in each of 22 premises within the year; and 58 outbreaks were on premises where the disease was known to have occurred within the previous five years. The probable source of infection was the use of imported feeding stuffs in 267 outbreaks, the use of imported feeding stuffs and artificial manures in 51 outbreaks, artificial manure of animal origin in eight outbreaks, effluent from tan-yards in four outbreaks, and in 47 outbreaks no explanation was available.

(*g*) Parasitic Mange of Equine Animals.—There was a reduction in the prevalence of the disease from 201 outbreaks in 1930 to 139 in 1931, 237 animals being attacked. The County of Essex headed the list with 21 outbreaks; Norfolk had 20 outbreaks, Kent 6, Surrey 4, Middlesex 3, London 6 (15 in 1930). Suffolk, which headed the list in 1930 with 32 outbreaks, showed a decrease of 15, and Lancashire showed a decrease from 29 to 4. There were two outbreaks in Wales, as compared with none in 1930. Scotland had seven outbreaks.

PART II.—IMPORTATION—GENERAL PREVENTIVE DISEASE MEASURES

Two important events relative to the introduction of foot-and-mouth disease by imported animals occurred during the year. One was the discovery of that disease on June 17th amongst animals imported from Ireland through the ports of Heysham and Ayr, and the other an outbreak of the disease in Southern Rhodesia from which consignments of fat cattle were sent to Great Britain for slaughter at the port of landing. The former has been dealt with in Part I. Trade was permitted to resume its normal course on August 23rd subject to the regulations contained in the Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1923, and amending Orders which are of a permanent character. Animals imported from Ireland are also required to be accompanied by health certificates issued by a veterinary officer of the Government of Northern Ireland or the Irish Free State, as the case may be, after examination immediately before shipment. Swine, other than those intended for immediate slaughter, are required to be detained for 27 days as a protection against the spread of swine fever. The number of animals imported from Ireland during 1931

amounted to 831,963 cattle, 670,336 sheep, 428,178 swine and 81 goats.

With regard to the question of foot-and-mouth disease in Southern Rhodesia, the High Commissioner for the Union of South Africa was informed that it was contrary to the interests of both Great Britain and the Union that cattle should be shipped from South Africa until the disease in that country had been cleared up, and the Ministry accordingly made an Order on April 18th prohibiting the importation of cattle from the Union of South Africa. The Union took vigorous action, with the result that the Ministry on January 25th, 1932, felt justified in revoking the Order of April 18th, 1931, permitting the resumption of the trade in fat cattle from the Union of South Africa, but not from Southern Rhodesia, where it still continues to prevail in certain parts of the colony.

Store cattle to the number of 23,064 were imported from Canada during the year, of which 10,045 were slaughtered at the landing place, 7,932 licensed for immediate slaughter, and 5,087 for further feeding. Fat cattle from Canada numbering 3,927 were also landed for slaughter, 3,047 at Birkenhead and the remainder at Manchester and Glasgow.

In addition to the primary cases of foot-and-mouth disease from Northern Ireland, three cases of advanced tuberculosis were discovered from cattle imported from the Irish Free State, and 98 cases of sheep scab, 36 from Northern Ireland and 62 from the Irish Free State.

Seven hundred and ninety-eight dogs and 41 cats were imported during the year under licences granted by the Ministry under the Importation of Dogs and Cats Order of 1928. In addition, three dogs and three cats were landed in contravention of the Order. One owner was prosecuted and fined for breaking quarantine on veterinary premises, and his wife was also fined for assaulting the veterinary surgeon's groom.

PART III.—PROTECTION OF ANIMALS AND POULTRY DURING TRANSIT

Under the Animals (Sea Transport) Order of 1930, a consignment of 898 cattle and 228 swine was carried to Russia and the only casualty was one pig injured. Of the large numbers of animals carried from Ireland, previously mentioned, casualties were: cattle 0·04 per cent., sheep 0·02 per cent., and swine 0·14 per cent. The carriage of animals from Ireland is governed by the Transit of Animals Order of 1927. In the trade of cattle with Canada and South Africa the percentage of losses was 0·10 and 1·05 respectively. Out of 1,556 cattle imported from the Channel Islands no casualties resulted.

During the year 6,178 horses were shipped from Great Britain to the Continent of Europe after having passed the veterinary examination required by the Diseases of Animals Act, 1910, as amended by the Exportation of Horses Act, 1914. Horses to the number of 576 were rejected by the Port Veterinary Inspectors. Only six casualties occurred on transit, or one per thousand. There has been a considerable decline not only in the export of live horses to the Continent of Europe but in carcasses of horses, the latter during the year numbering 33,884. The French Government has imposed a great increase in the duty on horse flesh imported into France.

The transport of poultry is governed by the Conveyance of Live Poultry Order of 1919. Importation is of considerable extent from Ireland, principally through the Port of Liverpool.

PART IV.—EXPORT OF PEDIGREE AND OTHER STOCK

There was considerable reduction in the number of animals passing through the Quarantine Station, East India Dock, London: 386 animals (164 cattle, 201 sheep and 21 pigs) as against 561 in 1930. The Union of South Africa (230 animals), Australia (91 animals), and the Irish Free State (38 animals) were the countries chiefly concerned. Canada and New Zealand have not yet seen their way to lift their embargoes against the admission of British stock into their countries.

PART V.—INTERNATIONAL VETERINARY BUREAU

The Ministry was represented by Mr. D. A. E. Cabot at the annual meeting held in May, 1931. Preventive measures to combat certain contagious diseases were discussed. In respect to contagious abortion it was considered that where laboratory tests have shown that the herds are heavily infected, the use of a live vaccine is advised, but in all other circumstances a live vaccine is contra-indicated. No definite conclusions were arrived at on the value of vaccines against rabies. Useful results would appear to have been obtained on the Continent in the prophylaxis of foot-and-mouth disease by the use of convalescent serum or of polyvalent hyperimmune serum. Vaccination against swine fever was considered to be a useful process where the disease situation is serious, provided a local virus is used. The Committee considered that the time had now come when a systematic prophylaxis against tuberculosis should be undertaken in all countries.

PART VI.—THE VETERINARY LABORATORY, WEYBRIDGE

During the year the following numbers of specimens of suspected cases of scheduled diseases were received for diagnosis:—swine fever, 4,022 (of which 2,101 were positive); anthrax, 665 (of which 516 were positive); sheep scab, 60 (of which 44 were positive); rabies, 15 (all of which were negative). In addition, 4,716 specimens (chiefly poultry) were received which were not suspected of diseases dealt with by the Ministry.

Doses of anti-abortion "A" vaccine to the number of 21,877 were supplied to veterinary surgeons, and 977 agglutination tests carried out in connection with bovine abortion. The preparation of Calmette-Guérin vaccine (B C G) was continued and 1,425 doses issued for inoculation of selected herds. Agglutination tests numbering 135,031 were conducted in poultry, and 537,304 doses of fowl pox vaccine issued for inoculation of poultry against that disease. Three thousand two hundred and twenty doses of avian typhoid vaccine were also issued.

With regard to research into foot-and-mouth disease, much attention was paid to the conditions which favour the survival of the virus outside the animal body and its survival in refrigerated carcasses and material. It was shown that ordinary washing soda, in suitable concentration, is an efficient virucidal agent which can be employed extensively in practice. It was found that immunity in pigs is only of a few months' duration, but recovered cattle are protected against the same type of virus for a considerable period, and probably in the majority of cases over two years. Work on the survival of the virus of swine fever in refrigerated or salted carcasses was continued. A systematic enquiry was begun on the distribution of the bacilli of bovine contagious abortion in the bodies of "carrier" cows, and experiments were carried out to determine the degree of virulence possessed by vaccine strains. The helmintholo-gist worked on the life history of *Strongylus equinus*, one of the "red worms" which causes serious illness in young horses. He also studied an outbreak of "gapes" in goslings. The main work of his department was connected with verminous gastritis in sheep, supplemented by observations in the field, and the relation of heavy infestations (and actual disease) with different systems of cropping and sheep husbandry. Work in connection with fowl paralysis was mainly of a preliminary nature, but up to the present no success had attended efforts to transmit the disease by inoculation. Salmonella infections of ducklings were also studied.

J. M.

The embargo on the importation of forage from Great Britain into Guernsey, which has been in operation since 1925, has been modified. Hay, straw and litter may now be imported from Hampshire and Wiltshire, provided that each consignment is accompanied by a certificate stating where grown, and that foot-and-mouth disease does not exist within a radius of 25 miles, together with a Ministry certificate of confirmation.

* * * * *

Although it is possible to maintain fertility by proper rotation of grains, grasses and legumes, *i.e.*, by a system of cropping, it is more economical for the land owner to depend on livestock for the maintenance of soil fertility. The dairy cow is being used extensively in building up and replenishing depleted soils.

THE NATIONAL INSTITUTE FOR RESEARCH IN DAIRYING

Annual Report, 1931

During the year under report the Institute has lost by death two members of its board—Dr. E. Mathews and Sir Wm. Mount; also on February 2nd, 1932, the Director, Dr. R. Stenhouse Williams, died. This was a great loss to the Institute, and the report contains a memoir and an appreciation of his splendid work. It might not be out of place to mention here that Dr. Williams was always a great friend to the veterinary profession.

During the year reported upon, owing to the National crisis, the Government grants to the Institute have been reduced by £2,000; this means that rigid economies have had to be made by the staff and it is probable that all milk produced will have to be sold as whole milk for purposes of income—instead of a large part of it being used for research purposes, as heretofore. Altogether the Institute is passing through a very trying time, and the report contains an appeal for funds.

Dairy Husbandry Department

This department is responsible for the farm, the main function of which is to provide for the maintenance of a herd of about 60 dairy cows to supply milk for research work by all the departments. The stock-carrying capacity of the farm has been increased, particularly by an increase in the acreage under lucerne; the total arable land is 149½ acres and that of permanent grass 147½ acres.

The herd is practically free from tuberculosis; one animal reacted to the double intradermal test during the year. There were two cases of abortion, but blood tests showed that the cause was not the contagious form. There have been no cases of Johne's disease. As in the previous year, all cattle over seven months' old have been examined for warble fly larvæ and affected animals dressed every five weeks. It was found that the younger stock were more heavily infested.

The average milk yield was 7,763 lb. and seven cows gave over 10,000 lb.; the average was adversely affected by an attack of "husk," which affected the whole herd during the summer of 1930.

The experimental work of the department included:—

(1) Manuring of pasture land.
(2) Oat variety trials.
(3) (In conjunction with the chemical department) studies of typical English milk; on the solids-not-fat content of milk; and taint of milk by molassed beet pulp.
(4) The feeding of lucerne to yearlings during winter. Yearling shorthorn heifers were

found to make satisfactory progress on a diet of 12-14 lb. of lucerne hay and 30-40 lb. of mangels without any concentrated food, and compared well with the controls, which received meadow hay, roots and concentrates.

(5) Tests of milking machines and an apparatus for measuring the speed at which milk is drawn by machines.

(6) On the feeding of dried separated milk to calves. The results indicate that it may be of definite value, but the reconstituted product should not be fed to calves under three weeks old and the rate at which it replaces whole milk be gradual.

Chemical Department

Study of "Type Milk."—Three years' work have now been completed on this subject and a useful amount of data obtained, among which are the following:—

(1) The variability of the percentage of butter fat.

(2) The iodine value of butter fat is increased by feeding the cows on pasture.

(3) When milk is naturally low in solids-not-fat it has a high chloride content and its freezing point remains constant. The freezing point is therefore a practical method of detecting added water.

(4) The variation in the time of coagulation of the milk by rennet; this became much slower in winter. The report does not state why—it is probably due to the diet of the cows.

Oiliness in Milk.—This was found to be due to the presence in the milk of traces of copper from corrosion of some part of the milk processing plant.

Nutritional Value of Raw and Heated Milk.—The work on this subject gives certain proof that definite and demonstrable changes are brought about in the chemical composition of milk by the application of heat well below 145° F.

An attempt to determine the effect upon the nutritional value of such milk was made by an experiment upon rats. A group of rats were fed raw milk, another group milk sterilised once while fresh, and another group milk kept for 24 hours and then sterilised.

The results indicate that the nutritive value of the milk was seriously affected by the heat. No second generation was raised from rats fed on the milk which had been kept before and after heating, while a second but no third generation was raised from those receiving fresh, sterilised milk. The group fed upon raw milk "continued to breed and lactate through several generations, a fifth having now been raised." The animals fed upon heated milk were poor and undersized.

The importance of this result cannot be overestimated at a time when there is so much agitation for milk to be made safe for the consumer by some method of heating; this is especially the case with regard to infant feeding, the milk for this purpose being often 24 hours' old and generally heated again before being offered to the child.

Pig Feeding Experiments.—Pigs which were fed half a pint of full cream milk in lieu of 2 oz. of meal gained more weight than pigs fed all meal. This experiment has been repeated a good many times.

Vitamin Requirements of Pigs.—The results of experiments show that the pig is dependent for growth upon Vitamin B_1 and B_2. The requirements for Vitamin C in the diet are negligible.

Refection.—Professor Fridericia has shown that rats may thrive for indefinite periods on diets devoid of the B vitamins; also, Sir A. Theiler advanced the hypothesis that Vitamin B is formed in the rumen of cattle by bacterial synthesis. This phenomenon has been termed "refection" and is being studied and investigated in collaboration with the Bacteriological Department.

Lactation.—In collaboration with the Department of Physiology, work is being done upon the dietary requirements for successful lactation.

Bacteriological Department.

Thermophilic Bacteria in Raw Milk.—These bacteria, although non-pathogenic, may cause difficulty in controlling pasteurised milk.

It was found that thermophiles were more often present in ordinary milk than in that produced under rigidly clean conditions. Milk contaminated by feeding stuffs was found infected in ten out of ten cases.

The Plate Count.—Work has been done to improve the media and technique of the Plate Count.

Carbolic Taint in Sterilised Milk.—This was found to be due to an atypical member of the ærobic spore-forming group of bacteria. The spores are very resistant to heat and other destructive agents.

Cheese. — Work has been done upon: (1) Cheddar cheese ripening; (2) red or rusty spot in cheese; (3) "stinker cheese," and (4) development of moulds in Stilton cheese.

The Viability of the Bovine B. tuberculosis on grass, etc.—A great deal of work has been done upon this subject and the results indicate that the organism survives longer than had been thought to be the case.

Experimental Milk Control Schemes. — Four retailers are now working under this scheme, which concerns the milk of 31 producers. Further members of the Certified and Grade A (T.T.) Milk Producers' Association supplying retailers in and around London have joined the scheme. Under this scheme 3,305 milk samples were tested during the year.

Dairy Bacteriological Advisory Department.—During the year 3,163 milk samples were tested by the department in connection with Clean Milk Competitions held in seven different counties.

Over 700 animal inoculation experiments were carried out for the detection of *B. tuberculosis*.

Altogether, the department examined 6,900 milk samples during the year.

Physiological Department

This department is just beginning to do useful work, but is hampered by lack of space and funds. Work is being conducted upon:—

(1) External conditions as affecting milk secretion.
(2) Nutritional requirements for lactation.
(3) Studies of blood composition.

The work has not been in progress long enough to justify conclusions, but the work on blood is yielding results of definite value.

The Dairy.—Work in this department is hampered by the shortage of milk available, the shortage being more acute than last year. Experimental cheese, butter and casein are manufactured and machinery and equipment tested.

The Library.—This is increasing in its size and usefulness.

The report concludes with a summary of papers published during the year. They are of interest to all connected with the milk industry, from producer to consumer; some are of special interest to veterinary surgeons, particularly "How to get a Tubercle-free Dairy Herd" by J. Mackintosh.

W. L. L.

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CITY OF SALFORD

Veterinary Inspector's Report for the Year 1931

The Report of the Veterinary Inspector of the City of Salford gives a full account of the work of this important distributing centre for cattle and sheep to the County of Lancashire.

The Report deals firstly with the Diseases of Animals Acts, and secondly, with the milk supply of the City, and finally gives in tabular form statistics relating to both these sections.

Diseases of Animals Acts

An important change which occurred during the year was the closure of the cattle market by order of the Ministry of Agriculture and Fisheries after approximately 80 years, the reason being that it was not paved in such a manner that it was impervious to water and could not be effectually cleaned.

The numbers of animals exposed for sale from January 1st to April 30th, when the market was closed, were 18,658 cattle and 93,849 sheep.

No case of foot-and-mouth disease occurred during the year, but periodical inspection of all cattle, sheep, and pigs, disinfection of cattle lairs and vehicles used in transit has been carried out, in addition to regular visits to piggeries to ensure that the Foot-and-Mouth Disease (Boiling of Animals' Foodstuffs) Order, 1928, was complied with. Seven suspected cases of anthrax were reported, but no case was confirmed.

The absence of any case of parasitic mange is remarkable in a city in which Shire horses are so extensively used. This is a considerable improvement on conditions prevalent some years ago.

Nine cases of swine fever were confirmed, eight of which were in one of the slaughter-houses.

Apart from cattle coming within Article 12 of the Tuberculosis Order, no animal was dealt with under this Order.

The two cattle stations were visited regularly, and 29,280 cattle trucks were cleansed and disinfected during the year.

The Milk Supply

This section is very fully detailed.

During the year there was an increase of 23 in the number of persons registered as retail purveyors of milk, making a total of 716, and there was also an increase of 52 shops selling bottled milk. The wish is expressed that all shops of the "mixed business" type will sell only bottled milk, and most people will agree with this, with the proviso added that the bottles shall be sealed so as to avoid all possibility of contamination of the milk. A start has been made towards this end, and as a result, 26 persons have been removed from the Register. Special attention is drawn in the Report to the improvement of effective bottle washing, and the necessity for approved bottle-washing outfits in dairies dealing with this class of trade.

Pasteurised and Grade "A" milk was supplied to the hospitals and special schools. Farms supplying the milk were under the supervision of the Veterinary Inspector, and the conditions prevailing were particularly good. By arrangement with the farmers concerned, all new cows were examined before their milk was used. As this arrangement resulted in the detection of two cases of tuberculosis of the udder, it may be said to have been fully justified.

The average bacterial content from the examination of numerous samples of milk showed a gratifying compliance with the standards laid down in the Milk (Special Designations) Order, 1923. The pasteurised milk also showed an average well below the standard allowed, but the Report comments on the large percentage of pasteurised milk which contained *Bacillus coli* in a dilution of 1/10 c.c. The details of licences issued under the Milk (Special Designations) Order, 1923, emphasise how small an amount of raw milk covered by this Order is sold. This

would appear to be the general experience throughout the country.

Approximately 80 per cent. of the milk sold is treated by heat, but only a small proportion is pasteurised under licence. Emphasis is laid on the fact that if the milk is not sold as pasteurised, the local authority has no control over the method of treatment or the apparatus used—a point which seems to require alteration.

One hundred and thirty-nine samples of milk were examined for bacterial content, and 442 for tuberculosis. Of the latter, 30, or 7·2 per cent., were positive, which maintains the average of previous years. As 15 of these samples were pasteurised milk, and were negative, the figure of 7·2 would seem to be a lower estimate of tuberculous infection than actually obtains.

Visits to the number of 2,384 were made to the slaughterhouses in the city, and the following details are given:—

	Number inspected.	Number diseased.
Cattle	1,748 ...	122
Sheep	9,035 ...	86
Calves	17 ...	2
Pigs	12,549 ...	1,343

Regular visits have also been paid to the retail meat shops and the food preparing premises.

Tables are given showing the details of seizures of unsound food, 35·6 per cent. being seized on account of tuberculosis. A table is given showing the number of carcasses of pigs inspected, and the number found to be infected with tuberculosis during the years 1921-31. The average would appear to be fairly well maintained at approximately 4·5 per cent.

The Report shows the necessity for a Veterinary Department in every city and large town, and the Veterinary Inspector of Salford is to be congratulated on the efficiency of his administration, especially in view of the fact that he has no professional assistant.

R. C. L.,

FOOT-AND-MOUTH DISEASE IN LEICESTERSHIRE

Foot-and-mouth disease broke out last week at Brentingby, near Melton Mowbray, Leicestershire, and the effect of the 15 miles standstill order issued by the Ministry of Agriculture is that there will be no hunting in the prohibited area until the ban has been lifted. The Quorn, Cottesmore, and Fernie hounds are affected. This is the first outbreak in the district for 3½ years.

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Commenting on the closing by consent of private slaughterhouses in the Coventry city area, following the opening of the new abattoir, the Public Health Committee points out that a mutual agreement such as this with the local butchers is unique in the history of the public abattoir movement.

Abstracts

[The Toxicity of Carbon Tetrachloride for Sheep and Cattle: A Survey. Rose, A. L. *Aust. Vet. Jour.* 8. 4. pp. 122-137.]

A review of the literature of this subject and a comparison of Australian data with those of other countries are valuable adjuncts to an account of fatal intoxications following the treatment of sheep in New South Wales with carbon tetrachloride. Losses usually commenced on the fourth day after treatment and continued for several days. The mortality rate usually varies between 10 per cent. and 30 per cent. of the sheep treated, and further from 10 per cent. to 15 per cent. of the surviving sheep shed all their wool within two or three weeks of treatment. The symptoms usually consist of general depression and diarrhœa. The *post-mortem* findings are those of a gastro-enteritis which in the earlier losses amounts to a hæmorrhage from the mucosa of the abomasum and small intestine.

An important factor in the toxicity of carbon tetrachloride for cattle would appear to be calcium deficiency, but these investigations do not support the calcium deficiency theory as regards losses in sheep.

The reason for the occasional severe losses following drenching of sheep by this drug is not yet understood. An attempt is made to eliminate as many toxic factors as possible, but the under-mentioned, which cannot be discarded, are considered as follows by the author in what he deems to be their order of importance:—

(1) Extremely cold, wet and bleak weather.—Provided that the sheep treated are on properties at relatively high altitudes, there is good reason to believe that unfavourable weather conditions play an important part in rendering them susceptible to carbon tetrachloride intoxication.

(2) There is a little evidence to suggest that very fat sheep are unsuitable subjects for treatment.

(3) A low calcium balance may render sheep susceptible to intoxication, but there is no experimental evidence to support this.

(4) It has been shown that cattle on a low calcium diet are very susceptible to intoxication.

(5) In other countries there is some evidence to suggest that sheep which have been fed on a diet of concentrates may be unsuitable subjects for treatment.

(6) There is meagre evidence that travelling sheep considerable distances either before or after treatment may predispose to intoxication.

Accordingly, it is recommended (1) that at high altitudes the treatment of sheep with carbon tetrachloride should be avoided as far

as possible during the colder months of the year or when a change to bleak, cold and wet weather conditions is liable to occur; (2) that treatment of over-fat sheep should be avoided (in point of fact, these should not require treatment); (3) that sheep should have available to them a mineral mixture containing adequate calcium; (4) that sheep on concentrated diets should not be treated with carbon tetrachloride; (5) that long distance travel before or after treatment should be avoided whenever possible; and (6) that cattle should not be treated with carbon tetrachloride unless such treatment is absolutely necessary. If treatment must be carried out then a mixture of equal parts of bone meal and salt, or some other calcium rich adjunct, should be allowed the cattle for at least two weeks before treatment. Milking cows are the worst subjects for treatment. W. B.

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[Immunisation of Cattle against Tuberculosis.
Deich. *D.T.W.* No. 28. July 9th, 1932. 433.]

The pros and cons of immunisation against bovine tuberculosis are discussed at length by the author, whose views are substantiated by certain experiments. Immunity to tuberculosis would appear to be closely associated with the presence of a primary focus of infection, which may or may not protect the animal from super-infection at a later date. That such primary foci occur spontaneously in cattle cannot be doubted, but the resulting immunity is diminished by resolution. The theory of artificial immunity depends, then, upon substituting the natural infection by the production of a focus of infection which will remain static and will not heal out. The status of an animal with regard to its sensitiveness to tuberculin is liable to change (and especially in young cattle a complete swing from positive to negative reactions is no rarity)—a change which results from its innate defence mechanism tending towards healing of primary foci. Consequently, it is expecting much from artificial immunisation to hope that it will be more effective than a spontaneously acquired primary infection.

The whole question is complicated by the reactions to tuberculin. For example, a positive reaction to tuberculin denotes an organic lesion, but immunity to tuberculosis is also judged by the same reaction, and in the absence of manifest lesions such a reactor would be regarded as a protected animal. Although the author's experiments showed what might possibly be increased resistance following intracutaneous vaccination, he is unable to draw any conclusions, and thinks that the sheet anchor of control is to husband the natural powers of resistance and to direct more skill to the ruthless and immediate removal of all open cases. W. L. S.

[Paralytic Colibacillary Mammitis of the Cow.
MM. Lesbouyries, Adam and Argoud. *Bulletin de L'Académie Vétérinaire.* Vol. 5. No. 7.]

The authors, in making a systematic study of mammitis, here give consideration to a form of the malady which is accompanied by paraplegia.

As far back as 1889 Lucet called attention for the first time to this condition, which he described as occurring in cows after being four months in calf, the right posterior quarter being usually affected; it is firm, painful, not much enlarged, and with a turgid teat. The patient rapidly becomes paraplegic; the extremities are cold, the temperature is normal, the pulse and respiration are slow. Recovery is usual in five days. On bacteriological examination the milk yielded a short mobile microbe not liquefying gelatin and coagulating milk.

A number of veterinarians in France and Germany have described this paralysis of cows in milk accompanying mammitis. It is said to be observed mostly during hot weather and to come on some days after the beginning of the udder trouble, recovery being the rule in robust cows, though aged and anæmic patients have to be slaughtered.

In a veterinary practice at Yonne one of the authors each year saw thirty cases of this paraplegic form in two hundred mammitis patients and always during the hot weather. The cows, permanently stabled, present suddenly, five or six months after calving, an acute mammitis; the udder, generally the right posterior quarter, is œdematous, the teat turgid and hot. The milk is gravely altered—collected in a test tube, it presents a limpid lacto serum having often the appearance of blood serum or having a light yellow colour; in this serum the clot is suspended: it is always fragmented. On the animal's hind parts there rapidly appear the phenomena of paraplegia; the cow can no longer stand, and after some wavering of the hind parts she goes down and cannot rise again. There is constipation and anuria from rectal and vesical paralysis. General symptoms develop: there is inappetence and great depression, but the temperature remains normal, about 102° F. After an evolution of three days, death usually supervenes if the animal is not bled, and in 30 per cent. of the cases if the animal is bled copiously. When recovery takes place the paralysis slowly diminishes while the state of the udder improves; generally the mammitis clears up some days after the paralysis. It has been asked whether this accident, coming on some months after calving, is not a form of milk fever, but here the percentages of blood calcium and phosphorus are the following: Ca 9·9 mgr, P. 6·6 mgr.—about the same as those of normal blood, while in milk fever these percentages are

considerably lower; moreover, mammary insufflation and injection of calcium gluconate (so effectual in the case of milk fever) are here of no use. Finally, bleeding, which in milk fever increases the nervous syndrome of the coma, constitutes one of the best means of treatment for this form of mastitis.

Bacteriological research on the milk in four of these cases of paraplegic mammitis has resulted in the finding, always in a state of purity, of a bacillus of which the essential characteristics are those of the *Bacillus coli*. Coli bacillary mammitis is probably the form referred to by Lucet in 1889. A table is appended which shows that out of nearly two thousand samples of milk from cases of mastitis examined by eleven bacteriologists, *Bacillus coli* was found to be the active agent in 6·5 per cent. of the cases.

A marked feature of paraplegic *Bacillus coli* mastitis is that it is never accompanied by the elevation of temperature seen in the non-paralytic forms of *Bacillus coli* mammitis. Contrary to the opinion expressed by Leblanc and Quintard, the authors consider that this is not a pseudo-paraplegia but a real paralysis due most likely to coli bacillary toxins: the obstinate constipation and vesical paralysis are the witnesses to the paralysis. In a recent work it has been pointed out by MM. Lesbouyries and Adam that it is easy, outside a laboratory, to make the etiological diagnosis of streptococcic and staphylococcic mammitis by collecting in a test tube samples of the milk and allowing them to stand for 24 hours, when the former will furnish a large clot covered by lacto serum, more or less limpid; while in the case of the latter an opalescent serum has an upper foamy layer and sometimes a deposit without firmness and which disappears after the tube is shaken.

In applying the same principles to coli bacillary mammitis one gets two layers in the tube, a clear serum and, generally suspended in it, a clot always fragmented—characters which clearly differentiate it from mammitis due to streptococcus or staphylococcus. Thus the paraplegic mammitis observed in hot weather among cows in milk appears to be due to infection by a coli bacillus of which the virulence is particularly enhanced in summer. This mammitis is sometimes observed, during several years, in the same stable.

W. R. D.

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[Non-pathogenic Diphtheroid Micro-organisms in a Calf. Heelsbergen and Clarenburg. *D.T.W.* No. 35. August 27th, 1932. 551.]

Reference is made to previous reports of the finding of diphtheroid bacilli in animals, such as in surface wounds of teats, etc., and in the mouth and pharyngeal mucosa of fowls. Hitherto, as primary causes of disease, little importance has been attached to their presence, occurring as they do on easily accessible parts. On the other hand, their presence in more remote tissues, such as the blood of a sick animal, lends more weight to the view that they may have some etiological significance. The authors report such a case, where, from a calf dead of sepsis, a pure culture of diphtheroid micro-organisms was obtained from the blood. Additional interest was lent to this discovery inasmuch as many cases of diphtheria were reported among children in the neighbourhood, and further the calf was known to suckle a cow suffering from teat abrasions.

The organism was examined culturally and morphologically and its toxin tested for toxicity and virulence. It proved non-toxic and non-pathogenic for guinea-pigs, and an experiment on a calf had a similar result. The conclusion is drawn, therefore, that the presence of this organism in the blood of the calf in all probability had no etiological connection with its illness or with the human cases of diphtheria.

W. L. S.

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[The Viability of Foot-and-Mouth Virus in Milk and Dairy Products. Terbrüggen. *D.T.W.* No. 34. August 20th, 1932. 529.]

In this, his second contribution to the above problem, the author deals with the viability of the virus in cheese and whey. The persistence of the virus in these products would appear to depend on the degree of heat and acidity employed in manufacture. For example, Emmentaler cheese is heated during preparation to 50° C. for forty-five minutes, and Neufchatel cheese is strongly acidified, and in neither of these types was the virus detected in the resultant whey. Examination of Tilsiter, Edamer, Limberger, Quadrate and Camembert cheese was also undertaken, where the heating and acidity is moderate, and positive results were obtained in animal tests of the whey up to a period of twenty-three hours after preparation. Consequently, little doubt exists that whey from such cheese may act as a mechanical carrier of the foot-and-mouth virus, especially since it forms an everyday food for pigs and calves, and moreover, is commonly fed to these animals well within the period of known viability of the virus. In ripe cheese, on the contrary, it is probable that the virus is absent.

W. L. S.

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[Blackquarter Prophylaxis with Formolised Vaccine of Leclainche-Vallée. Schmiedhoffer. *D.T.W.* No. 35. August 27th, 1932. 545.]

Reference is made to the progress in blackquarter prophylaxis since 1912, when the germ-free filtrate method of immunising susceptible

animals was introduced by the Japanese bacteriologist Naoshi-Nitta. This method proved popular, and since the vaccine contained neither spores nor organisms it was safe and simpler in use than the Lyons method, which it almost entirely supplanted in Japan, America and Europe. It had, however, the disadvantage of inducing a shorter immunity, so that two injections were recommended. Leclainche and Vallée investigated the problem and in 1925 produced a new vaccine which had been grown in bouillon for several weeks and rendered atoxic with formalin. Laboratory experiments showed that guinea-pigs could be protected against fatal doses of the blackquarter organism by means of this formolised vaccine.

The author's experience of this product extends to its use in 667 young cattle as well as other animals. The districts chosen were known to be blackquarter districts, and the inoculations were undertaken by practitioners, who reported no deaths among the treated groups. There was no local reaction or other symptom following vaccination. The author is not in favour of adding *V. septique* to the vaccine in an attempt to immunise simultaneously against malignant œdema, and states that where necessary these processes are best carried out separately. Regarding the duration of immunity, confirmation is given to the foreign view that that produced by the Leclainche-Vallée formolised culture is longer than from Nitta filtrate, and lasts at least six months. Consequently it is to be preferred in prophylaxis against blackquarter of domestic animals.

W. L. S.

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1; Cardiff: 1, St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120, George Street.

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Review

[The Science of Meat and Biology of Food Animals. Vol. II. By E. C. Line, B.Sc. (Lond.). Published by The Meat Trades Journal Co., Ltd., 57, Cowcross Street, E.C.1. 1932. pp. 279, with 53 illustrations. 7s. 6d.]

Volume I of this publication was reviewed in our columns last February (Vol. xii, No. 6, p. 155, *V.R.*), and now Mr. Line produces volume II, which deals with Food and Diet, the Nervous System, Reproduction in Animals, Genetics, Heredity and Breeding, Science of Meat Production in the Future, *Post-mortem* Physiology of Meat, etc.

Like the first volume, this book contains no original work, but is a compilation of information derived from numerous other standard works, a list of which is given at the end. When we consider that this volume is intended for butcher lads, most of whom have received only an elementary, or at most a secondary, education, we wonder what the author's aim is in presenting the student with such a mass of entirely unnecessary detail in every chapter; especially is this the case in dealing with The Nervous System, Genetics, Heredity and Breeding, to mention only a few. The bulk of the material presented here can interest no-one but the specialist, and one is tempted to ask what benefit the meat trader is expected to derive, say, from the fact that an average nerve fibre is 1/4,000th of an inch in diameter? The insertion of chemical formulæ for some food substances appears to be unnecessary if the book is to serve as a text-book for meat trade students, as the average student attending the meat trade courses in evening classes throughout the country does not possess a knowledge of elementary chemistry. The publishers state that the book should also prove valuable to persons engaged in Public Health work. Doctors and veterinarians so engaged should have already become acquainted with the subject material of this book in their respective courses before qualifying for Public Health work, and in their case it is surely unnecessary continually to translate the usual Latin terms into English. We can understand that necessity in the case of butcher students, but we fail to see why the author has not carried the same consideration into the subject matter itself, by cutting out the redundant detail, and presenting the work in a manner calculated to appeal to the type of student for whom it is intended. Appendix "A," giving a short summary of the arterial system in animals, could very well be dispensed with, as it is entirely useless to the serious student of anatomy, as well as to the meat trader.

Of minor details we notice the following statements which show a lack of knowledge of the

subject. On page 10 one is led to believe that black puddings are an unpopular article of food, whereas the reverse is the case, as the author can verify from any manufacturer of these commodities. We are told that animals fatten better in the dark than in the light, and are led to assume that it is a kindness to deprive animals of their life!

It would have been better to use the word "mare" than "horse" in speaking of "the uterus in the horse" (p. 108), whilst "fœtus in man" should read "—— in woman." In dealing with the spaying of gilts, nothing is said of the objectionable after-effects of the operation from the point of view of the bacon curer. It is hardly necessary for meat trade students to know the period of gestation in the elephant. On page 185 the author refers to "lymphatics and mesenteric glands," by which one assumes he means the mesenteric lymphatic glands. Islington Slaughterhouse, London, is not the only place in this country where meat is placed in the cooler in the first 24 hours. On page 208 the author apparently confuses the condition known as "bone taint" with another due to excessive feeding with oil cake.

We must congratulate Mr. Line on the tremendous amount of work he has put into this volume, but it is doubtful whether the book meets the case of the student for whom it is intended. The proper understanding of the subjects dealt with requires a training of an university standard rather than that laid down by the National Federation of Meat Traders Associations for its students. It would have been better if the author had studied closely the type of student frequenting butchers' classes throughout the country, and produced a book which would have led them by gradual stages to the desire for more knowledge, rather than confusing them with a mass of uninteresting detail on subjects which are not vital for themselves or their trade.

ARMY VETERINARY SERVICE

London Gazette—War Office—Regular Army Reserve of Officers

Oct. 28th.—Maj. W. W. R. Neale, o.b.e., having attained the age limit of liability to recall, ceases to belong to the Res. of Off. (Oct. 27th.)

Territorial Army

Maj. W. S. Lornie, m.c., t.d., vacates the appt. of D.A.D.V.S. of a Div. (Sept. 1st.)

There were 3,500 entries, which is a record for a fur show in Scotland, at the recently held annual show of the Lothian Fur Club. The outstanding feature was the display of Silver Foxes, indicating the remarkable development which has taken place in recent years in Scotland in the breeding of this famous fur-bearing animal.

N.V.M.A. Divisional Reports

CENTRAL VETERINARY SOCIETY

Fifty-ninth Annual Dinner

SIR JOHN MOORE RECEIVES THE VICTORY MEDAL

A very enjoyable evening was spent on November 3rd, 1932, at the Mayfair Hotel, W., by the Fellows of the Central Veterinary Society and their ladies, on the occasion of the fifty-ninth Annual Dinner, which gave an auspicious start to the year of office of the new President, Captain R. J. Stow, m.r.c.v.s., who, with Mrs. Stow, received the large company who attended.

The toast of the Central Veterinary Society was submitted by the President of the Royal College of Veterinary Surgeons, Professor J. B. Buxton, m.a., f.r.c.v.s., who said that societies, like individuals, formed habits, and it was an excellent habit of the Central Veterinary Society to ask the President of the Royal College of Veterinary Surgeons to be present at their Annual Banquet, but their further habit of calling upon him to say something was not quite such a good one. (Laughter.) He would not like them to think on that account, however, that there was any lack of appreciation on his part of the importance of the Central Veterinary Society.

It so happened that some years ago he had the very proud privilege of occupying the seat which Captain Stow occupied that night, and on that occasion he ventured with some temerity to refer to matters which then were of importance to them not merely as members of the Central Veterinary Society, but as members of the veterinary profession: in particular, he referred to the matter of reconstruction. Upon looking up what he said thirteen years ago, he had been struck by the manner in which that Society had set out to fulfil various points which at that time seemed to them to be of the greatest importance. They would probably remember that within a very short period several stalwarts, who were regarded, he thought, at that time as misguided individuals, met in a little attic in Buckingham Palace Road and from the ashes of the old "National" remodelled an organisation which they prayed and trusted would meet the requirements of a body of people who hitherto had been almost inarticulate. It was not necessary for him, in the presence of his colleague of the "National" (indicating Colonel Simpson, N.V.M.A. President) to recount the various stages which had ensured success for it, nor the way in which that body had endeavoured to fulfil the requirements of all of them. When he looked round that room he saw

as members of the Central Veterinary Society those stalwarts who were regarded in those days as being misguided. (Cheers.)

Again, during the last decade or more, various changes had taken place in those aspects of the activities of the profession which were assigned by Royal Charter or by Act of Parliament to the Royal College of Veterinary Surgeons. He was not going to take up their time by reminding them of the amazing alterations which had taken place in recent years: he knew quite well, of course, that many of the things which had been done had not met with universal approval. However that might be, there had been a set purpose, that purpose had been adhered to, and he looked forward to the time when the many recent actions of the Council of the Royal College would be accepted as having been very great steps in the advance of matters professionel. (Cheers.) Here again, on looking round that room, he saw many members of the Central Society who had been primarily responsible for many of those great changes which had taken place. (Hear, hear.)

Concluding, Professor Buxton said that it gave him very great pleasure to be there that evening and to have the opportunity of proposing that toast in his capacity as President of the Royal College. Particularly was this so because Captain Stow happened to occupy the position he did that night. It was a good many years since he first had the pleasure of meeting Captain Stow: it was in a country place and they were both very young, but since then their responsibilities had increased in undue proportion. (Laughter.) That their President would prove more than equal to his latest and greatest responsibility both he (Professor Buxton) and they, the Fellows of the Central Veterinary Society, were entirely confident. (Cheers.)

The President (Captain Roger Stow, M.R.C.V.S.), in reply, said that he felt that it was a very great honour to stand there that night as President of that Society and to respond to the toast of the Central Veterinary Society, which had just been so ably proposed by the President of the Royal College of Veterinary Surgeons.

He would ask them first to allow him to thank Professor Buxton for the kind remarks he had made both about the Society and its President and also to thank them for the way they received the toast. It was with a certain amount of diffidence that he accepted that office as President, since he was such a junior member, and there were numerous much older members who had not filled it; also, not being a fluent orator, when he knew whom he had to follow, he realised that it would make the task more difficult. That reminded him that they owed his predecessor, Major Hamilton Kirk, a deep debt of gratitude for all the hard work he had done during his year of office, and he personally desired to congratulate him on the way he had presided for the last 12 months. (Cheers.)

With gentle persuasion, then, and knowing that he could rely on their excellent Secretary, Captain Macdonald, he accepted. He discovered that he had been elected on the 13th day of the month, so he thought he had started well. (Laughter.) He sat for one of his professional examinations on the 13th day of the month in 1913, and his examination number was 13. Strange to say, he got through, therefore he hoped that would be a good omen for a successful year. (Hear, hear.)

Recently he had been sitting, together with several colleagues, on the hard oak seats in the Law Courts waiting to give evidence, and several times he wondered which would be the greater ordeal—to give his evidence and be cross-examined by a very clever counsel, or to try and make a speech there that night. He now knew that giving evidence was easy. (Laughter.)

He was very pleased to see that they had among them there that night so many distinguished guests; he was sure they all extended to them a very hearty welcome and hoped they would enjoy their evening. (Hear, hear.)

Harking back to the toast, there were just two little points he should like to mention. That Society, he believed, had a larger membership than any Division of the N.V.M.A., but he was sorry to say the attendance at the meetings was gradually declining. He mentioned this that night because he saw that several members were present who did not often attend the meetings, and he would ask them and others to do their best to come, if only to support him and try and make the year a successful one. The Council had decided to alter the agenda of the meetings to try and induce more members to come and take part.

The second point was in connection with the Victoria Veterinary Benevolent Fund's Golf Tournament. He did hope that the members who endeavoured to hit the little white ball would turn up in numbers this year and try and bring back the trophy, which Colonel Simpson so kindly presented, to its mother land. In doing so they would also be supporting the Fund, which needed it. (Hear, hear.) In this connection he should also like to draw their attention to the fact that this year and subsequently there was going to be a ladies' golf meeting, with the same object, and for which Mrs. Dunkin had very kindly presented a trophy: he asked the ladies present to turn up in full strength and do battle for it. (Hear, hear.)

Before he sat down, he desired to make one or two birthday references. He understood that that was the anniversary of the birthday of

Professor Hobday, a friend of all and a Fellow for whom they would wish the best from the bottom of their hearts. (Cheers.) Then he understood that that was the third birthday of the only pure-bred veterinary surgeon, whose parents were Fellows of the Society: to Mr. and Mrs. Taylor and their son they offered their hearty congratulations. (Hear, hear.)

He thanked them most heartily for the way in which they had drunk his health and that of the Society. He could assure them that he intended to do his utmost, during his year of office, for the welfare of the Society and for the upholding of its prestige. (Cheers.)

Presentation of the Victory Medal

Following a musical interlude, the President rose to say that they now came to a most important item on the programme and one that gave him very great pleasure: he referred to the presentation of the Victory Medal. For the benefit of those who did not know what the Victory Medal was, he would explain: it was a gold medal which was struck by the Central Veterinary Society after the Great War in commemoration of the Allied Victory, and it was presented annually to the member who, in the opinion of the Council, had done most to further the interests of the Society in any way.

He (the President) felt it to be a very great honour that it had fallen to his lot to present the medal to their honoured and gallant friend, Major-General Sir John Moore. (Cheers.) It was quite unnecessary for him to say very much about that gentleman, who was so very well known amongst them. On referring to the *Register* he was surprised to find that Sir John passed out of Edinburgh some 47 years ago and he was sure they would all agree with him, on seeing Sir John there that night, that that was practically unbelievable. (Hear, hear.) Numerous members present, as well as himself, had the honour of serving under Sir John when he was Director of Veterinary Services in France and they could appreciate to a small extent the huge task he had to carry out and how ably and honourably he fulfilled it. (Cheers.)

Since he had retired from the Active List of the Army, Sir John had not allowed himself to be idle: he evidently believed in the old adage that one rusts out far quicker than one wears out. (Hear, hear.) Among his many activities, Sir John was a very prominent member of the National Horse Association—which Association did so much to keep the horse on its legs to-day. He was always doing his utmost to bring and to keep the veterinary profession to the fore and he (the President) felt that the whole profession owed him a deep debt of gratitude for his untiring energy in this direction. (Cheers.)

He would now ask Sir John Moore to come forward and receive the Victory Medal, together with every good wish from the Central Veterinary Society for long life and happiness for many years to come. (Loud cheers.)

Major-General Sir John Moore, having received the medal at the hands of the President amid loud cheering, said in the course of his acknowledgment, that he was very sensible of the high honour that had been conferred upon him that evening in the fact that it had been their gracious pleasure to present him with the Victory Medal that was given by the Society annually; he must thank Captain Stow and them all for having selected him to be the recipient of the medal this year.

He was very much attracted to the word "Victory" (hear, hear)—he did not quite know, however, whether to apply it personally—inasmuch as it might be thought by many of them that it was a victory over old age, for he was no chicken, having reached the age of sixty-nine years—or whether he might apply it to the adverse circumstances of the time: he was certainly of opinion that he might apply the word "victory" to the activities of the veterinary profession and particularly, as he knew them, to the activities of the profession in war. (Cheers.)

Of course, they all knew the history of the Army Veterinary Services: how they were created; how very imperfect they were in the days gone by; how, despite the initial handicap under which they laboured early in the Great War, they improved as time went on, with the expansion of our Forces not only in France but in the other theatres of war, with increase in personnel, and in horses and other animals. Speaking for himself, and as Director of that Force in France, he would like to make it clear that he owed a great deal to men of the veterinary profession who offered their services, coming out to France, helping him as much as possible in controlling all those contagious diseases with which they had to meet during the course of active service. He thought that was a spirit of service that redounded to the great credit of the profession as a whole. He would like to say, with regard to their service in France and in other theatres of war, and the prestige that was bestowed on the Army Veterinary Service when the King was graciously pleased to give them the prefix "Royal," that that proclamation was accompanied by a very excellent appreciation from the Quartermaster-General, which he desired to read to them, because he thought it really showed what the veterinary profession could do when they were up against disease: and when he said "up against disease," he must remind everybody that the veterinary people during the war saved this country from the introduction of contagious disease, and they must not allow people to forget

that. (Hear, hear.) This was what the Quartermaster said:—

"The Corps, by its initiative and scientific methods, has placed military veterinary organisation on a higher plane. The high standard which it has maintained at home and throughout all theatres has resulted in a reduction of animal wastage and increased mobility of mounted units, and in mitigation of animal suffering unapproached in any previous military operations." That, proceeded Sir John, was an exceedingly good "chit," of which not only those in the Veterinary Service of the Army, but the whole profession, might feel justly proud. (Hear, hear.)

Continuing, Sir John observed that he was very proud to be associated with the National Horse Association: he was indeed determined to uphold the interests of the horse. His dear old friend Lord Plumer, who died a short time ago, said to him one day: "There is one thing I want you to remember—you have got to be the last man in the last ditch in defence of the horse." He replied, "Aye, aye, Sir." (Loud cheers.)

He was rejoiced to find that in agricultural pursuits the horse was coming back to its own: in many countries it was going to oust the tractor. He was certain of this, that no farmer in this country could afford to have tractors: he must maintain the horse. (Hear, hear.)

He could not say how grateful he was to them for having conferred on him the Victory Medal that evening.

During the evening the proceedings were enlivened by the excellent performances of Mr. Fred Morriss (entertainer) and Rex Smith's Band, which subsequently provided music for a thoroughly-enjoyable dance, with Professor G. H. Wooldridge as the popular M.C.

NORTH MIDLAND DIVISION

MEETING AT SHEFFIELD*

A meeting of this Division was held at the King's Head, Change Alley, Sheffield, on October 25th, 1932, when there were present: Messrs. R. Hudson (President) in the chair, Abson, Bowett, Fletcher, Furness, Green, Johnson, Robinson, Scott, Thompson, Tullis, Walker, and the Hon. Secretary. Mr. T. McWilliam attended as a visitor.

The minutes of the last meeting, which had been published in the *Veterinary Record*, were confirmed.

Arising out of the Council minutes, it was proposed that the following resolution, consideration of which had been overlooked, be sent to the N.V.M.A.: "That until such time as Johne's disease can be definitely diagnosed in all its stages, no useful purpose would be served if this disease were scheduled." This proposal was confirmed.

Treatment of Animals of the Poor.—Messrs. Abson and Tweed were asked to make arrangements with the R.S.P.C.A. for the provision of free treatment of animals of the poor on the decentralised system and to report to the next meeting what steps they had taken in the matter.

Obituary.—Reference was made to the recent deaths of F. L. Somerset, F.R.C.V.S., Restholme, Matlock, who was one of the original members of the Association and had done good work on its behalf, and of Captain J. H. Yates, O.B.E., M.R.C.V.S., and the Hon. Secretary was instructed to convey an expression of sympathy to their widows in their bereavement.

Captain Johnson said that Mr. Yates, who had been in practice for many years in Sheffield, was well known and greatly respected, not only for his professional skill, but more particularly for his personal character and qualities, especially because beneath an unpretentious exterior he possessed extraordinary urbanity and good-heartedness which were constantly manifested to other members of the profession. He obtained the O.B.E. for war services, and since the war he had found time apart from his professional work to give valuable help to local farmers in connection with the Norton Agricultural Show, of which he acted as Secretary with zeal and energy.

Clinical Cases.—Messrs. T. Bowett (Worksop) and J. G. Furness (Alfreton) then gave notes on clinical cases and progress. These provoked a good discussion, in which Messrs. Abson, Fletcher, Green, Scott, Tullis and Walker took part.

Votes of Thanks.—The meeting terminated with a hearty vote of thanks to Messrs. Bowett and Furness for so kindly consenting to open a discussion on clinical subjects.

A vote of thanks was accorded to the President for his conduct in the chair and his kindness in entertaining the members to tea.

Wm. Tweed, *Hon. Secretary.*

The following table gives the average composition of milk from the different breeds of dairy cows:—

Breed.	Solids per cent.	Fat per cent.
Jersey	14·70 ...	5·35
Guernsey	14·71 ...	5·16
Devon	14·50 ...	4·60
Shorthorn ...	13·38 ...	4·05
Ayshire	12·61 ...	3·66
Holstein	11·85 ...	3·42

* Received for publication November 1st.

VICTORIA VETERINARY BENEVOLENT FUND

SUCCESSFUL RESULT OF EFFORTS AT FOLKESTONE

A meeting of the Victoria Veterinary Benevolent Fund was held at the College, 10, Red Lion Square, London, W.C.1, on Wednesday, October 5th, 1932.

There were present: Professor J. B. Buxton, Messrs. G. H. Locke, J. W. McIntosh, Major-General Sir John Moore, Major D. S. Rabagliati, Dr. J. Share-Jones, Lieut.-Colonel P. J. Simpson, Professor G. H. Wooldridge and Captain W. G. Wragg.

In the absence of the President, Professor J. B. Buxton was elected to the chair.

The minutes of the previous meeting held on June 29th, 1932, having been published in the *Veterinary Record*, were taken as read and signed as correct.

Apologies for absence were received from Lieut.-Colonel J. W. Brittlebank, Messrs. H. W. Dawes, A. Gofton, Major F. L. Gooch, Messrs. P. J. Howard, J. Ewing Johnston, H. P. Standley, Captain Sidney Villar and Mr. W. Woods.

SECRETARY'S REPORT

The Secretary submitted the following report, which was approved:—

New Subscriptions, etc.

	£	s.	d.
Wm. Collinson (increased by £1 1 0)	2	2	0
Professor J. F. Craig, ditto	2	2	0
T. R. Jarvie, ditto	2	2	0
Ladies' Veterinary Benevolent Guild:			
Subscriptions ... £25 0 0			
Proceeds from Dance at Folkestone Conference £63 0 0			
	88	0	0
	£94	6	0

Donations

	£	s.	d.
J. W. Conchie, Collection at Folkestone	3	12	0
Major T. G. Heatley	1	1	0
Mrs. E. Hibbard (per Warwick Fowle)		10	0
Royal (Dick) Veterinary College Alumnus Association (Collection at Annual Luncheon, held at Folkestone)	3	0	0
Shipley Bowls Competition	3	3	0
Colonel Simpson Golf Trophy Competition	10	15	0
W. W. Smart	1	1	0
R. A. Willett (Life Member)	10	10	0
Yorkshire Veterinary Medical Association		10	4
	£34	2	4

It was resolved: "That the Secretary be instructed to express the gratitude of the Council to the organisers of the Colonel Simpson Golf Trophy Competition and of the Dance at the Folkestone Congress for their splendid efforts in aid of the Fund.

"That the Secretary be also instructed to write to Mrs. Wooldridge, who was mainly instrumental in organising the Dance, to express the Council's warm appreciation of her work and their hope that she will be willing on some future occasion to organise a similar function."

Life Member.—Mr. R. A. Willett was elected a Life Member of the Fund.

Cases

104. Widow, aged 49. Keeps late husband's mother; not yet in regular employment. It was resolved to continue the grant of £1 per week for the present quarter.

115. Member, aged 67. Unemployed; no income. The Executive Committee reported that they had made a provisional grant of 10s. per week to this member for the past 12 weeks. Their action was approved, and it was agreed that a grant of 15s. per week be made to this member for the ensuing quarter.

137. Member, aged 31. Unemployed. An application for relief was received from this member but it was resolved that no action be taken.

Conversion of War Stock.—The Secretary reported that the Fund's holding of 5 per cent. War Stock had now been converted.

It was resolved: "That the bonus received be added to the sum available for investment except in the case of the Warwick Fowle, Garnett Memorial and Hunting Memorial Funds, in which case the bonus be handed to the recipients."

Investment of Funds.—The Treasurer was authorised to invest the balance in hand in the Donations Account in a suitable security.

"NOTES ON THE BRITISH PHARMACOPŒIA, 1932"

This handy reference booklet by E. J. Millard, PH.C., F.C.S., F.R.M.S., gives detailed and well-classified information concerning the 1932 Pharmacopœia, and will be of service to the veterinary practitioner in conjunction with Professor Wright's contribution to our columns on the subject (*Veterinary Record*, *12*, 42, pp. 1253-1255). The "Notes" are issued by Messrs. C. J. Hewlett & Son, 35-42, Charlotte Street, E.C.2, who will send a copy to all veterinary surgeons on request.

In Parliament

The following questions and answers were recorded in the House of Commons recently (*Hansard* Reports):—

Livestock Officers

Mr. Glossop asked the Minister of Agriculture if he will take steps to revise the personnel of the selection board which has the appointment of livestock officers in such a way that one-third of the members are practical agriculturists?

The Minister of Agriculture (Major Elliot): The selection board consists of three persons, one of whom is the Ministry's Livestock Commissioner, who has a practical knowledge and experience of farming and livestock breeding. Effect is therefore already given to my hon. Friend's suggestion as to the composition of the Board.

. . . . . .

Horses and Ponies in Mines

Sir R. Gower asked the Secretary for Mines if he will consider taking steps to prohibit the use of horses to pull derailed tubs on to the roads in mines, having regard to the circumstance that this practice in the Swansea division has been disapproved by His Majesty's mines inspectors for some years on account of the accidents caused thereby and apart from the strain placed upon the horses?

Mr. E. Brown: No, Sir. Any attempt at general prohibition of the practice referred to would inflict much hardship on haulage workers and cause danger to them in other ways. I am not aware that it places undue strain on the horses.

Sir R. Gower asked the Secretary for Mines the causes of the reduction in the rates of ponies killed by accidents in the mines of Yorkshire from 70 per 1,000 in 1928 to 42 per 1,000 in 1932; and also the causes of the reduction in the injuries by accidents from 152 per 1,000 in 1928 to 143 per 1,000 in 1932?

Mr. Brown: As the hon. Member is aware, the higher accident rates for horses and ponies in Yorkshire led to special efforts being made to achieve a reduction in that district. The fact, which then became apparent, that these statistics are not strictly comparable as between the various coalfields makes it difficult to assess the results of these efforts, but it is hoped that the position in Yorkshire has now been brought nearer to the level of the other districts.

Sir R. Gower asked the Secretary for Mines if he will consider taking steps to prohibit the practice of attaching horses in front of loaded tubs sent down steep headings and inclines underground in mines, particularly in the mines of South Wales, where such loaded trams or tubs contain 30 or more cwts. of coal, and to provide that they shall be supplied with proper means of braking or retarding them when going downhill and so do away with the use of horses for this purpose?

Mr. Brown: The provision of proper means of braking is already compulsory in such cases as the Coal Mines Act requires suitable sprags, lockers or drags to be provided and used on all parts of roads where the gradient exceeds one in 20 and the haulage is worked by animal power. So long as these appliances are properly used, the risk of injury to the horse is reduced to the minimum and the horse could not be dispensed with without adding considerably to the labour and risk of the workers.

. . . . . .

Horse Breeding

Lord Apsley asked the Minister of Agriculture whether his attention has been called to the large sums of money being allocated by the Governments of foreign nations to the assistance of horse-breeding; and whether he is satisfied that the measures now adopted by his Department to encourage horse-breeding in Great Britain are sufficient to maintain the standard of the various breeds of horses and the export trade resulting therefrom?

Major Elliot: I am aware that many foreign Governments provide considerable sums of money for the encouragement of horse-breeding mainly, I believe, for the purpose of securing an adequate supply of horses for Army purposes. So far as heavy horses are concerned, I am satisfied that the grants made by the Ministry to heavy horse societies suffice for the purpose of the agricultural industry. The question whether it will be possible in existing financial circumstances for the Ministry to take over responsibility for providing financial assistance for the encouragement of the breeding of light horses is receiving consideration, and I am not at present in a position to make a statement on the subject.

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Certified Milk (Tests)

Sir J. Wardlaw-Milne asked the Minister of Health what number of producers of certified milk, having held licences under the Milk (Special Designations) Order, 1923, for the period of two years ended September 30th, 1932, have had negative results upon test for *Bacillus coli* in one-tenth in respect of each and all of the samples taken during such period; and, of these producers, how many have secured an average bacterial count per c.c. of less than 5,000 and less than 1,500, respectively, in respect of all samples taken during such period?

Sir H. Young: I regret that I am unable to give the information asked for by my hon. Friend as such data are not required for any administrative purpose, and their extraction from the records would involve a large amount of clerical labour which I should hesitate to sanction in present circumstances.

CANADA RECOGNISES LONDON QUARANTINE STATION

Canada's promise to "recognise" the London Quarantine station for the export of stock was a subject of gratification among members of the Royal Agricultural Society's Council at its recent meeting in London. Sir Merrik Burrell, who is chairman of the Committee which "manages" the Quarantine station expressed his thanks to Sir John Gilmour and Sir Douglas Newton for their efforts at the Ottawa Conference in inducing Canada to recognise the Quarantine station.

Sir Douglas Newton said that before the Ottawa Conference Canada declined to receive stock from this country if within a period of sixty days previous to its export there had been an outbreak of foot-and-mouth disease in any part of the country. On the arrival of stock at a Canadian port, it was subjected to a period of thirty days' quarantine. The new position would be that exported stock would spend fourteen days at the London Quarantine Station, and on arriving at the other side of the Atlantic another fourteen days would be imposed. In future, therefore, an outbreak of foot-and-mouth disease, if localised, would not be a bar to the export of pedigree stock to Canada.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Nov. 21st.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Nov. 23rd.—Meeting of the Section of Comparative Medicine of the Royal Society of Medicine, at the Society's House, 1, Wimpole Street, W.1.

Nov. 23rd.—Meeting of the West of Scotland Division, N.V.M.A., at Glasgow.

Nov. 25th.—Meeting of the Southern Counties Division, N.V.M.A., at Winchester.

Nov. 25th.—Meeting of the Royal Counties Division, N.V.M.A., at the Royal Veterinary College, Camden Town.

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VETERINARY INSPECTION IN CHESHIRE

A proposal which is to be submitted to the Cheshire County Council, at its next meeting, that five full-time veterinary officers be appointed to administer the Milk and Dairies Order and the Tuberculosis Order in Cheshire, was strongly supported by the County Executive of the National Farmers' Union at their meeting at Crewe on October 31st.

The proposal was outlined by Mr. T. C. Goodwin, who said that if the scheme was adopted by the County Council, the new officials would replace the part-time veterinary surgeons who now undertook the work. They already had a chief veterinary surgeon, who was a full-time official, and his work had effected a considerable saving to the county, as well as accomplishing much to enhance the reputation of Cheshire as a source of supply for clean milk. Five full-time officials, instead of 21 part-time veterinary surgeons, would mean an annual saving of £1,250 a year, while still further sums would be saved in microscopical examinations, which had never been undertaken by the part-time men. In time, the new officials would inspect the whole of the dairy herds in the county, and that would inspire a measure of confidence that they had not yet been able to give those who were buying milk from Cheshire.

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ROYAL SANITARY INSTITUTE BOARD OF EXAMINERS

In addition to Mr. E. J. Burndred, whose appointment to the above Board we announced last week, the following veterinarians have consented to serve:—Messrs. A. Alexander, H. Burrow, H. E. Bywater, and T. Parker.

Mr. James R. Hayhurst is amongst those reappointed as representatives of the Institute on the Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board, for a further period of three years, commencing January 1st, 1933.

R.S.P.C.A. ANIMALS' WAR MEMORIAL DISPENSARY

The R.S.P.C.A. Animals' War Memorial Dispensary was opened on November 10th by the Countess of Warwick in Cambridge Avenue, Kilburn, N.W.

The dispensary, which is, of course, professionally staffed, gives free treatment to the animals of those who could not otherwise afford it. Though opened officially only on that date, it has treated 6,000 animals during the last year.

The dedication reads:—

> "This building is dedicated as a memorial to the countless thousands of God's humble creatures who suffered and perished in the Great War; knowing nothing of the cause, looking forward to no final victory, filled only with faith, love, and loyalty, they endured much and died for us."

"This tablet," reads the casualty panel, "records the death of 484,000 horses, mules, camels, and bullocks, and many hundreds of dogs, carrier pigeons, and other creatures on the various fronts during the Great War."

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NATION'S RESPONSIBILITY TO ANIMALS

Principal Hobday Lectures at Burton

As an old Burton Grammar School boy, Professor F. T. G. Hobday was warmly welcomed at St. Paul's Institute, Burton, on November 4th, when he gave the Alexander Pedler lecture under the auspices of the British Science Guild and the Burton Natural History and Archeological Society.

Taking as his subject "Animals as a National Asset and Responsibility," Principal Hobday, in the course of his remarks, said that in times of great financial stress it behoved the nation to conserve all its resources. In every country, particularly an agricultural country like Great Britain, such a national asset as animals involved a very serious responsibility.

Professor Hobday gave the following figures of the numbers of animals in this country: 938,000 horses, 6,000,000 cattle (including 2,000,000 dairy cows), 17,700,000 sheep and 52,000,000 fowls. More money was invested in poultry than in wheat.

There must be properly trained people at the helm, he said, to be prepared for all emergencies, such as sudden epidemics of disease. Quick action was essential. Purity of milk and meat was not only an ideal worthy of attainment but also a necessity. Only by cooking did we escape diseases with our haphazard system of food inspection. But proper inspection was coming. There was some talk of the slaughter of animals being taken over by the Government, and the flesh being sent to central abattoirs. At present it was done in a very haphazard way of inspection by the sanitary inspector or the medical officer, neither of whom had sufficient knowledge of the diseases of animals for the purpose.

Professor Hobday went on to speak of particular animal diseases, certain of which were communicable to man. The general public had no idea, he said, of the value of efficient veterinary services.

The lecture was illustrated by an excellent collection of slides showing the presence of disease of animals, and two films of activities at the Royal Veterinary College were also shown.

Finally, the lecturer made reference to the Royal Veterinary College Rebuilding Fund appeal.

COUNTY COUNCILS' ASSOCIATION AND ANIMAL DISEASE

At the October meeting of the Executive Council of the County Councils' Association (as recorded in the Association's *Official Gazette* for November) it was reported that the Ministry of Agriculture had replied to the Association's suggestion that the Ministry should undertake investigations with a view to the eradication of Johne's disease, that it would be taken into consideration in consideration with the review, which will shortly be carried out, of the whole question of what methods can best be adopted for securing a reduction of disease among dairy herds.

A further letter from the Ministry informed the Association that the scheme under consideration for the expansion of research into diseases of animals, included swine fever and other diseases of the pig.

The Secretary reported the receipt of a letter from the Vice-Chairman, Sir Merrik Burrell, stating that the Animal Diseases Committee of the Agricultural Research Council had set up five *ad hoc* Committees of experts to conduct investigations into some of the most serious diseases.

It was thereupon resolved: "(*a*) That the Committee, while appreciating the value of research with regard to all animal diseases and welcoming the steps now being taken in this connection, are of the opinion that Johne's disease and swine erysipelas should, in view of their serious nature, receive special attention; (*b*) The Committee are also of the opinion that the valuable work of the Agricultural Research Council on this subject should not be hampered by lack of funds, and they therefore recommend that representations be made to the Minister of Agriculture and the Treasury with a view to securing the provision of adequate grants in aid of the Council's activities."

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R.C.V.S. LIBRARY

Following are recent acquisitions: *Volumes.*—Dobell, "Antony van Leeuwenhoek and his 'Little Animals'"; Smith, "About our Dogs": Rieck, "Das Veterinär-Instrumentarium im Waudel der Zeiten"; Blackie, "Helminthological Survey of Southern Rhodesia"; Cowdry, "Special Cytology," two vols.

Reports.—Ceylon, 1931; Fiji, 1931; Kenya, 1931; N.S. Wales, 1931.

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"DRY COAT" of RACE-HORSES IN MALAYA

The condition known as "dry coat" is commonly encountered in race-horses, states the annual report of the Federated Malay States Veterinary Department, and is responsible for the loss of many valuable animals. No treatment has up to now been successful once a case is established. The effects of various vitamin-bearing diets are being observed when opportunity offers, on the hypothesis that symptoms may possibly be associated with avitaminosis.

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FARMERS AS BUTCHERS: THE QUESTION OF INSPECTION

So great is the increase in the number of farmers who are slaughtering their stock at home and selling it owing to the low prices obtainable in the cattle markets that the situation from the standpoint of licences is regarded by local authorities as a difficult one.

The Sanitary Inspector of the Rugby Rural Council told that body that in the last twelve months he had had at least two dozen applications from farmers in the district for licences for slaughterhouses on their farms. The trouble was that farmers who could not sell their stock wanted to kill. Just lately the council had been shutting their eyes to a certain amount of illicit slaughtering, but in the last few weeks it had become so colossal that they would have to move in the matter.

The medical officer (Dr. H. Gibbons Ward) emphasised that a good supply of meat in the district depended upon whether or not they could inspect the meat. There was a danger, through ignorance, that meat which was not satisfactory might get into the hands of the consumers, and it was going to make it considerably more difficult if they were going to have too many slaughterhouses. If farmers took on the advantages of the trade they must take on the responsibilities.

It was decided that if a farmer found it impossible to obtain the use of an adjacent licensed slaughterhouse at a moderate payment, he be granted a licence to kill subject to his premises being considered suitable.

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SCOTLAND'S IMPROVED SHEEP SCAB POSITION

At a recent meeting of the General Council of the Institute of Auctioneers and Appraisers in Scotland a report on action taken in furtherance of the recommendation of the joint committee appointed by the Scottish Chamber of Agriculture, the National Farmers' Union of Scotland, and the Institute, to the effect that the administration of the Sheep Scab Orders should be transferred from county councils to the Ministry of Agriculture and Fisheries, was made on behalf of the Institute's representatives on the joint committee.

The Ministry, it was stated, now recognises that the position of Scotland, with regard to sheep scab, has progressively improved during the last few years, and the Department would have no objection to an amendment of the regulations of the local authorities in England so as to admit Scots sheep without being double dipped before movement.

It was agreed that the Institute's representatives should continue to press for the revocation of these double-dipping regulations.

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SOUTH AFRICAN CHILLED MEAT PROSPECTS

A Veterinarian's Part

"Now that they have been promised a portion of the meat trade of Great Britain, both Australia and South Africa have a great chance of building up a good export trade, with the huge market of Great Britain," writes A. G. Barlow in the *Rand Daily Mail*. "For some time now a group of responsible men called 'The Cattle Breeders' and Feeders' Association' has recognised that there were great possibilities in sending chilled meat from the Union to the English markets. Unlike the politicians, these men were workers, not talkers; and they have been steadily pursuing a scheme of sending over chilled meat to London. The president of this Association is Mr. A. M. Mostert, of Rietbult Estate, P.O., Balfour, Transvaal. A quiet, unassuming farmer, Mr. Mostert, with his executive, has done more for the cattle farmers than the whole of the parliamentarians put together.

"Another man who has rendered valuable assistance is Colonel James Irvine Smith, the Director of the Johannesburg Abattoirs. As far back as 1916 Colonel Irvine Smith, who was a member of the Railway Livestock Committee, had reported in favour of fully equipping our ports with the requisite cold storages, and he had reinforced this opinion in a report—it was a minority

report—he made when he was a member of the Livestock Export Commission of 1924. Owing to the farsightedness of Colonel Irvine Smith the great cold stores at the docks at Capetown were constructed. They are right up against the dock from which the mail boat sails.

"When Mr. Mostert had worked out his plan for sending chilled meat over-sea he went to the director of the Johannesburg Abattoirs for practical and technical assistance, and Colonel Irvine Smith has now proved, without a doubt, that chilled meat can, with every safety, be exported from any inland centre south of the Zambesi.

"In this way the city of Johannesburg has rendered a signal service to the farmers of Southern Africa. The Johannesburg Abattoirs have pioneered the way for a great and what will be an increasing business which will save the cattle farmer of this Union."

In a succeeding issue a correspondent writes: "I read with singular satisfaction Mr. Arthur Barlow's high tribute to the municipal abattoir and cold storage plant and to its exceedingly able and long-sighted director, Col. J. Irvine Smith. It is, I know, an unfashionable proceeding to pay tribute to the City Council and any of its officials, but, writing as one who has had some acquaintance with municipal enterprise, with the plans and ambitions of the Public Health Committee and the prevision shown by its veteran chairman, and also as one who has watched with admiration the quiet but devoted and expert service rendered for many years by the Director of Abattoirs, I can only express pleasure that Mr. Barlow's impressions have been made public in the columns of the *Rand Daily Mail.*

"Ratepayers who, on the slightest provocation—and sometimes with none whatever—level criticisms at the City Council and its permanent officials, require these occasional reminders that there are many respects in which the municipal administration of Johannesburg can be submitted to comparison with the most up-to-date cities in other parts of the world and still come out with flying colours. Mr. Barlow has given us a concrete example of a municipal undertaking which, years before the Ottawa Conference was conceived, had been prepared in readiness to handle a sharp development in our export of chilled meat, fruit and other perishable produce."

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IRISH HORSE-BREEDING FEARS

"Irish bloodstock breeders are facing ruin as the result of the increase in the special duties levied for live animals, including thoroughbred racehorses, imported to this country from the Irish Free State," says the *Daily Mirror* of November 10th.

"The general opinion in the Free State is that if the 40 per cent. duty which came into force yesterday remains for any length of time, the Irish horse-breeding industry will cease to exist. Many millions of capital are sunk in the business and the value of the export trade and the prices obtained for Irish yearlings annually at the Doncaster and Newmarket bloodstock sales form a big portion of the Free State's income.

"An immense amount of money has been spent in assisting in the building-up of the industry by such bodies as the Royal Dublin Society, the Irish Turf Club and the Irish Department of Agriculture. Mr. More O'Farrall, joint managing director of the Anglo-Irish Bloodstock Agency, said yesterday: 'The 20 per cent. tax has already shaken the market considerably, but this will finish it, for England is by far the biggest buyer.'"

Correspondence

LICENSING OF BULLS

To the Editor of the Veterinary Record.

Sir,—I consider that this is a good time for our profession to approach the Government and demand that all bulls shall have passed the tuberculin test before being used for stud purposes. It is altogether impossible for all cows to be tested, but not so for bulls, and I am confident that we should soon see a great improvement in the quality and health of our cattle. On talking the matter over with farmers and calf rearers, I find they would welcome such a law, and I know the subject has been discussed in more than one of our local Farmers' Union meetings. I fail to see how it can cause any hardship or much inconvenience to the owner of a good bull to have him tested twice a year, and at the same time it would help the pure pedigree breeders to get their animals sold. It is appalling to watch, year by year, scores of good young bulls with clean tuberculin charts go straight to the slaughter-house from our pedigree sales. Only a few years ago I tested twelve young bulls all sired by a bull that went to the Argentine at £1,100, and the owner subsequently told me that seven of them went from the sale ring to butchers at beef price.

In your article of to-day's *Record* under this heading it is stated that the Surrey County branch of N.F.U. believes that a large proportion of the bulls used in dairy herds are satisfactory; this is not the fact in other places. The milk producer is the culprit, he is ruining the breed of cattle in this country. All he wants or cares about is milk. He sells all his calves when dropped and does not care to what type of bull his cows are in calf. He knows that the little cross-bred scrub bull is the surest calf-getter. The rearer goes to buy his calf, sees the great good cow from which it comes, and pays accordingly, but never asks to see the sire. Farmers are becoming aware of this, but do not know how to remedy matters. I think there is now a chance to do so.

All practitioners who do much castrating will find that they are told to leave one out of the lot for a stock bull. Generally his only recommendation is that his mother is a good deep milker—just the animal in the herd unlikely to pass the test.

Whilst testing bulls for the spring sales, I have always made it a rule to castrate all rejected bulls before leaving the premises, and rarely am I refused permission even in well-bred animals. When this law comes into force I can see a readier sale for such rejects. Although tuberculosis is not hereditary, no one would willingly use a tuberculous sire, and I think I have seen some disastrous results in breeding herds from such a cause. I should like to see it become law that no one was allowed to keep a bull over fifteen months old unless it had passed the tuberculin test.

Yours faithfully,
Wm. A. Campbell.

Boroughbridge, Yorks.
November 12th, 1932.

The Editor acknowledges, with thanks, the receipt of the following:—

Report of a meeting of the Eastern Counties Division, N.V.M.A., from Mr. H. P. Standley, Jun., Hon. Secretary.

Communications from: Mr. Ll. E. W. Bevan, Captain W. E. Blackwell (Towcester), Professor Geo. F. Boddie (Edinburgh), Mr. H. T. Matthews (Liverpool).